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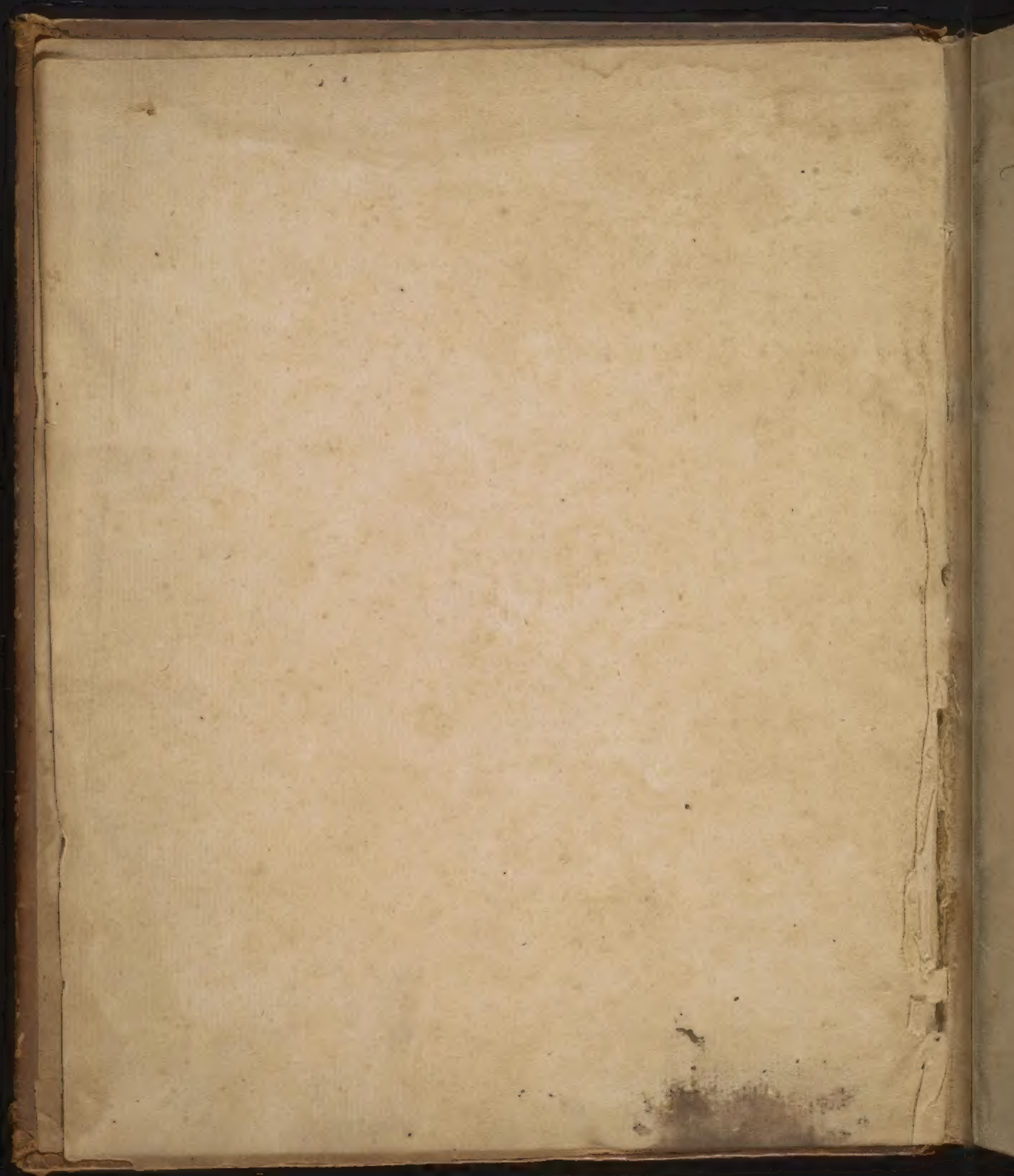
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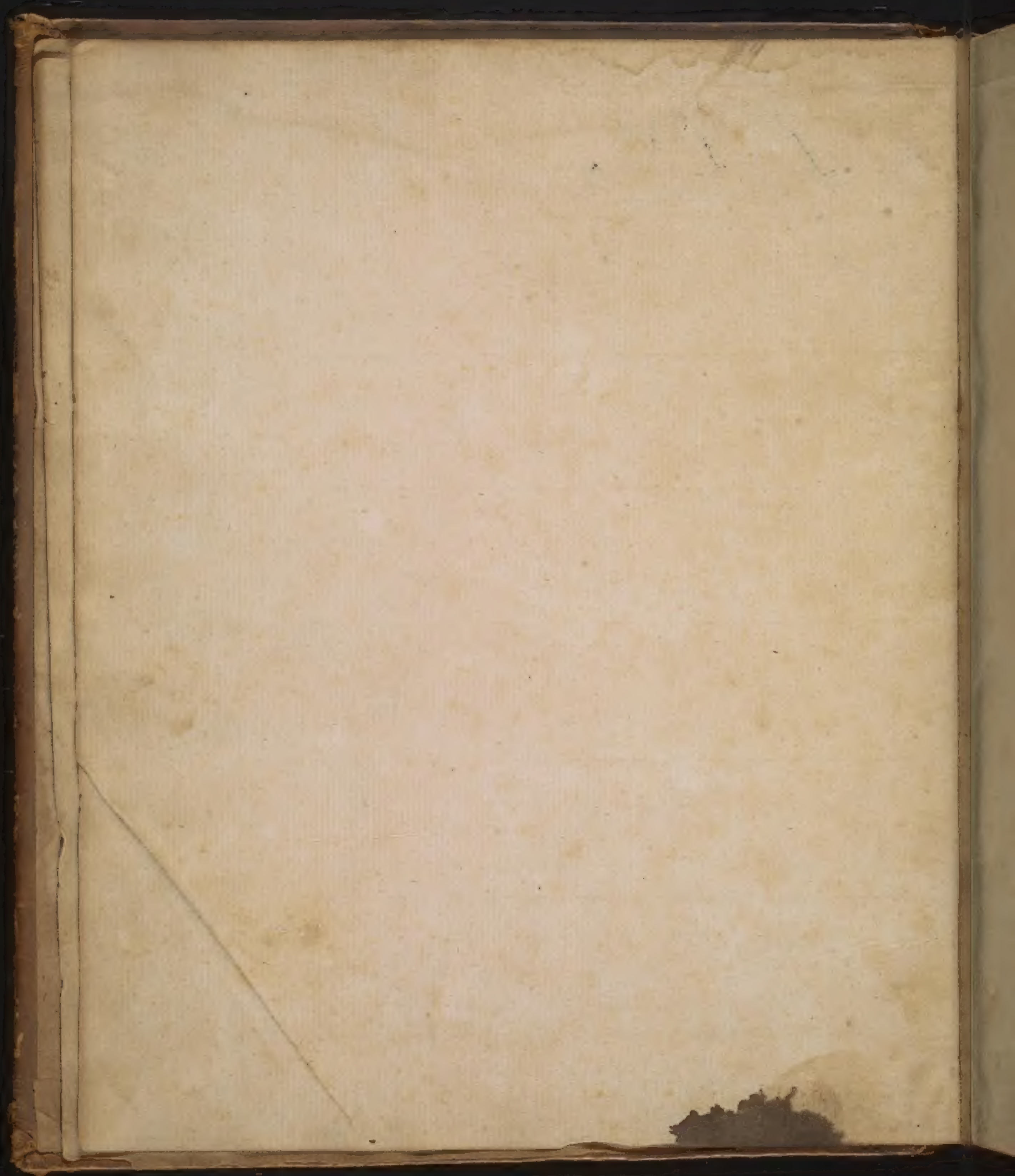
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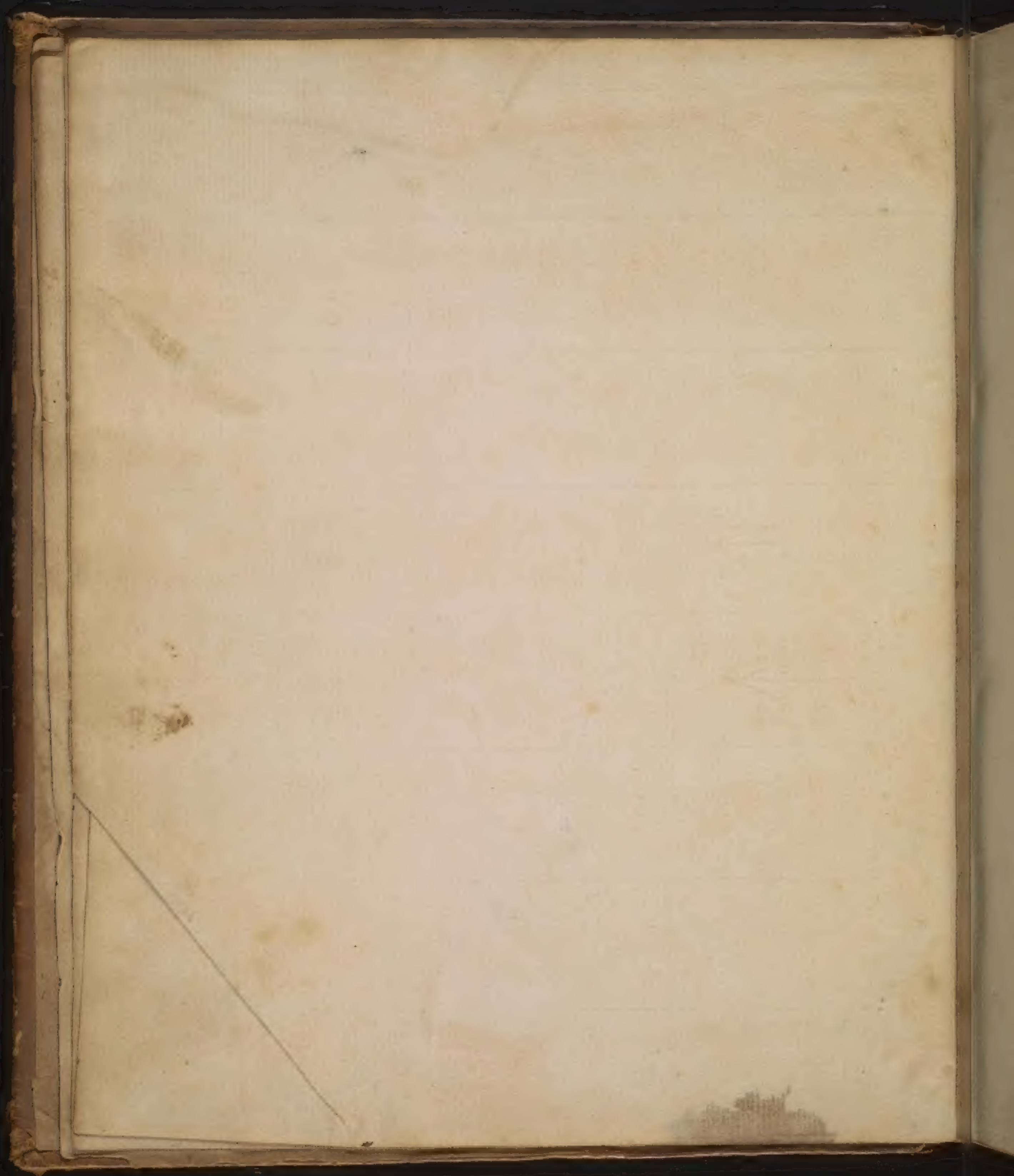
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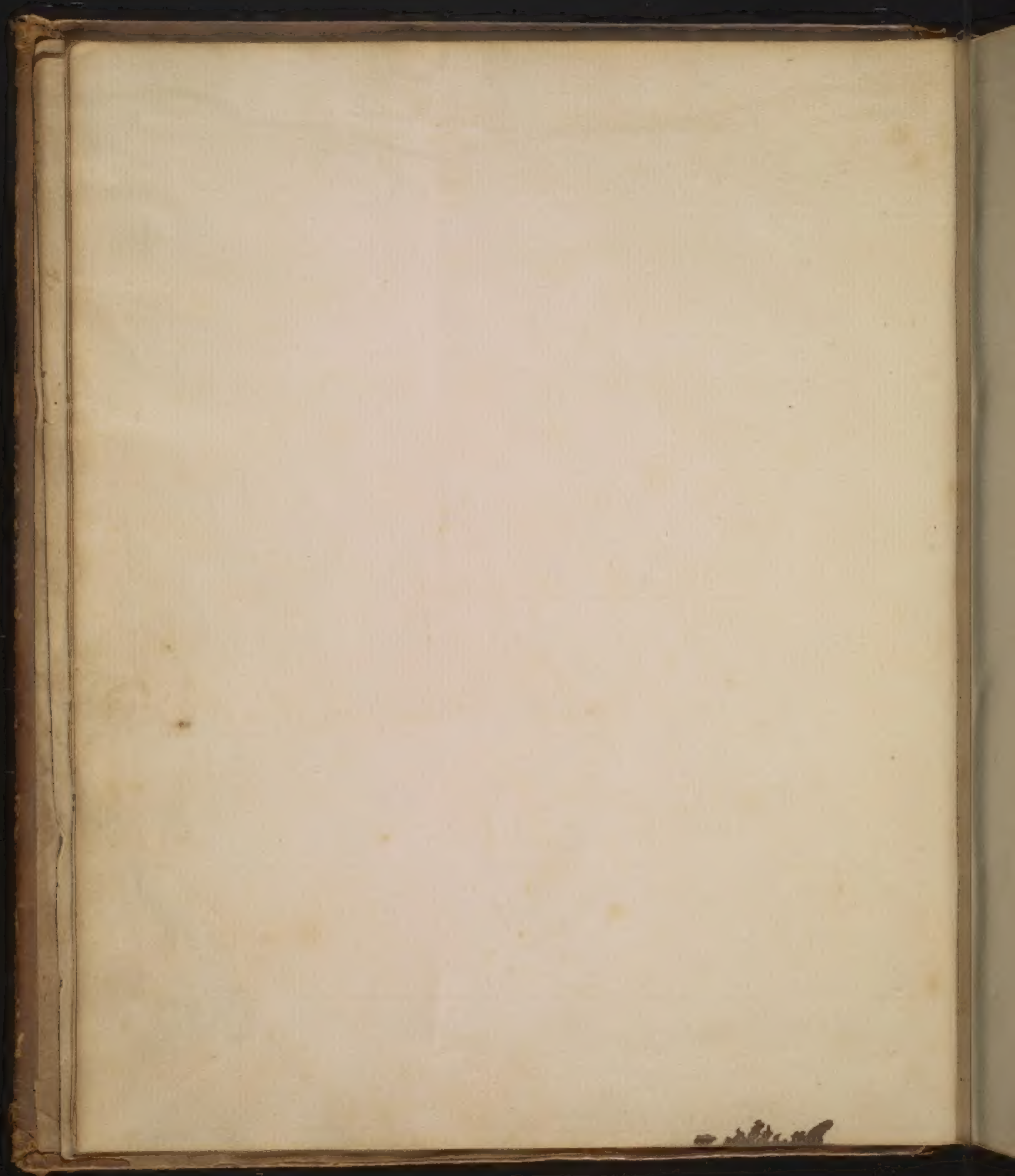
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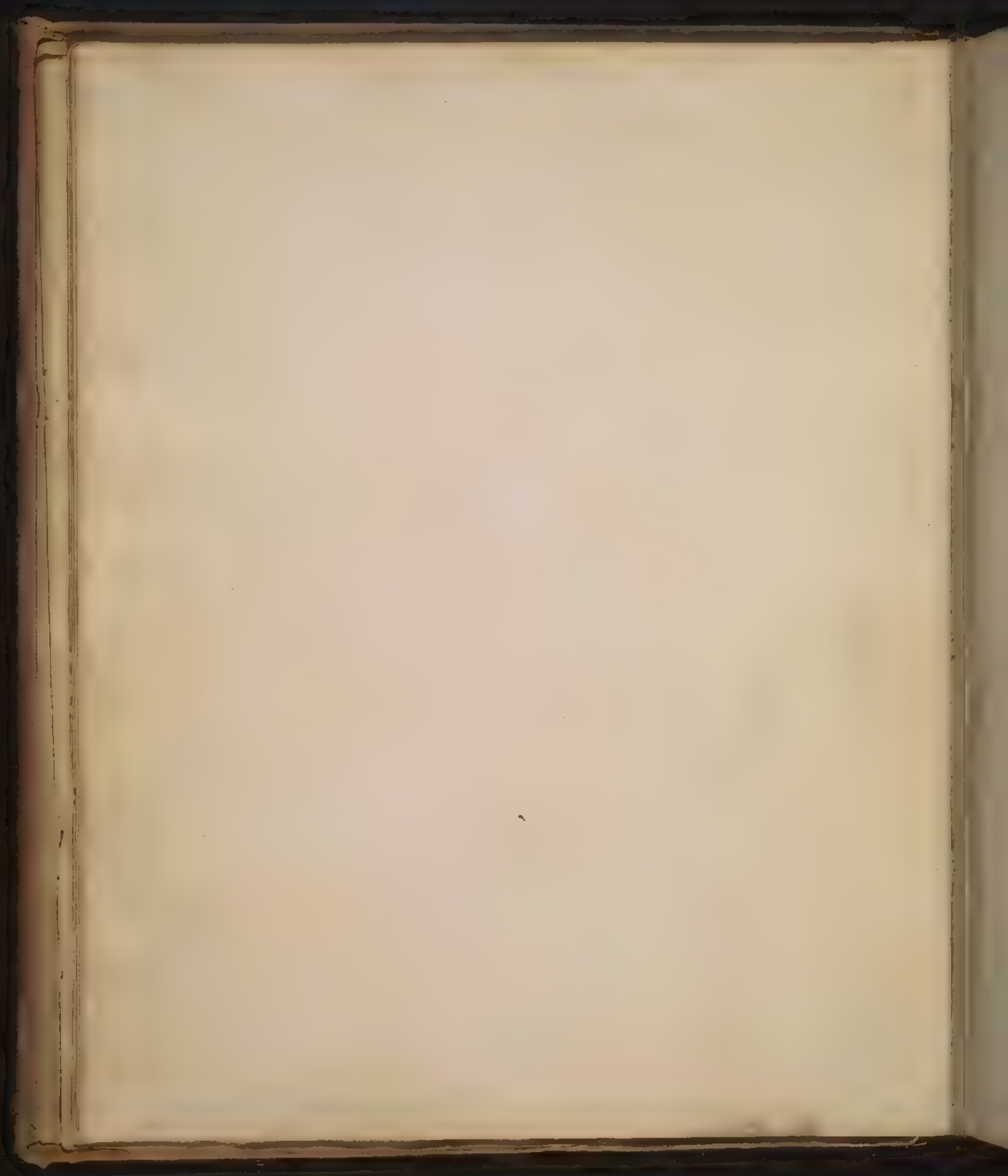
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A
Course of Lectures &

on the
Practice of Medicine

by
William

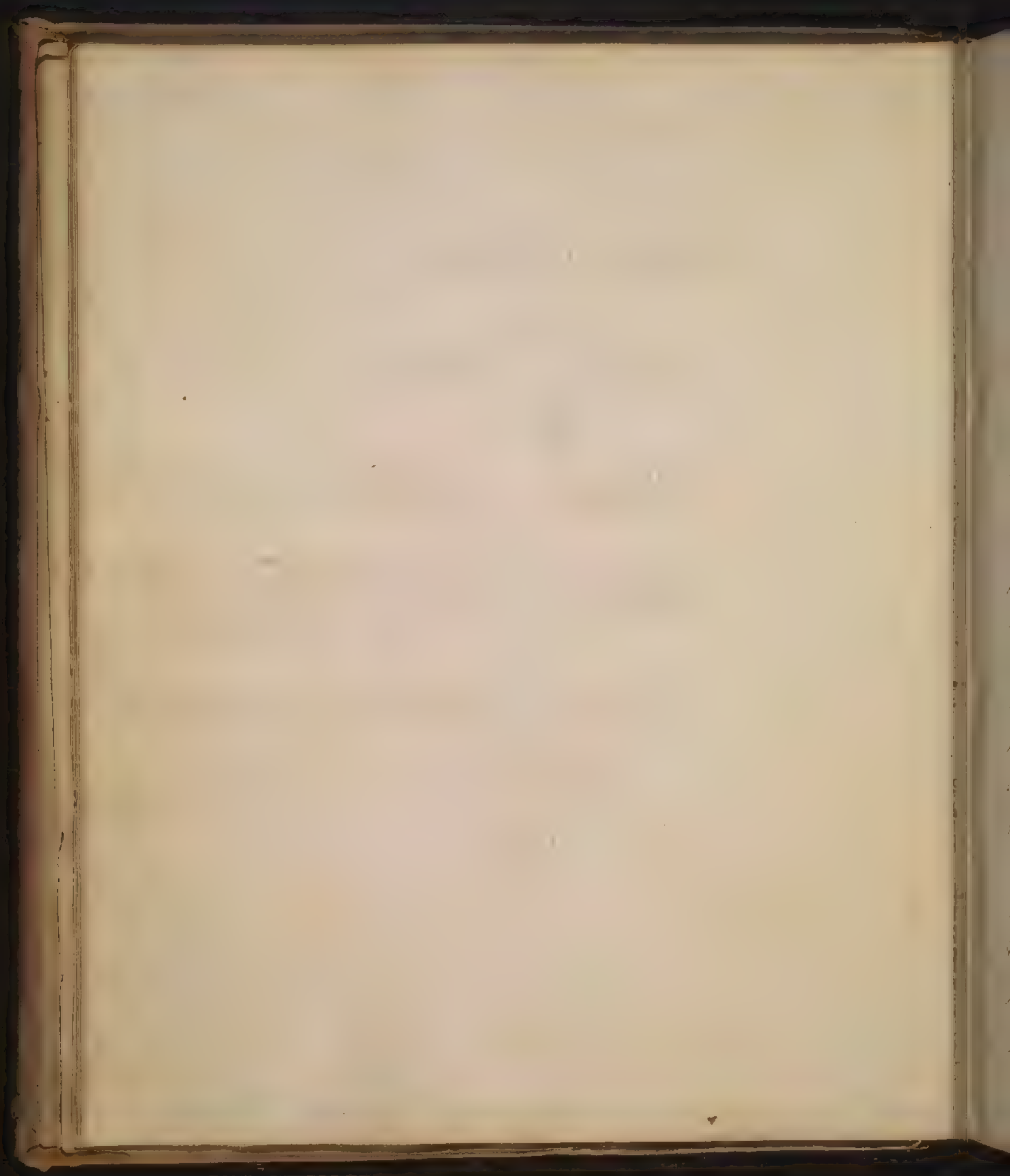
Cullen M.D.

Professor of Medicine in
the

University of Edinburgh

October 25th

1769.



We are here met to give a Course of Lectures on the Practice of Physic; but it is not proper that we enter upon any part of our subject today. Therefore I shall only say a few things, relating more to myself than to the course I am to give.

I am to enter this year upon a new subject, which is of the greatest importance, as it is the great end and purport of all our studies combined together; and requires, with the most sound Judgement, our most serious attention... I shall endeavour to execute it as it deserves, as far as my attention and abilities will permit: and that on account of my learned and worthy Predecessors Dr. Withersford and Dr. Gregory, both of whose Courses some of you have heard - I cannot hope to give you a Course so accurate as the one, or so complete as the other; yet nevertheless I am confident that the present method of having the Instructions taught by one Professor and the practice by another, must be disadvantageous to the Students; as it will be useful to them to hear different opinions on the same subject, and the sentiments of different Professors - Besides it is necessary also that you hear Dr. Gregory on the Instructions and me on the practice, in order to see both of our Systems completed; for it is not to be expected that we should both agree altogether in Opinions, as we both think for ourselves. Therefore while we taught different Professions, and you heard one

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of us only upon a subject, it is probable that my theory in many parts might seem not to have its application, and perhaps D'Gregory's Poachin, for the same reason, might seem to be without Principles.

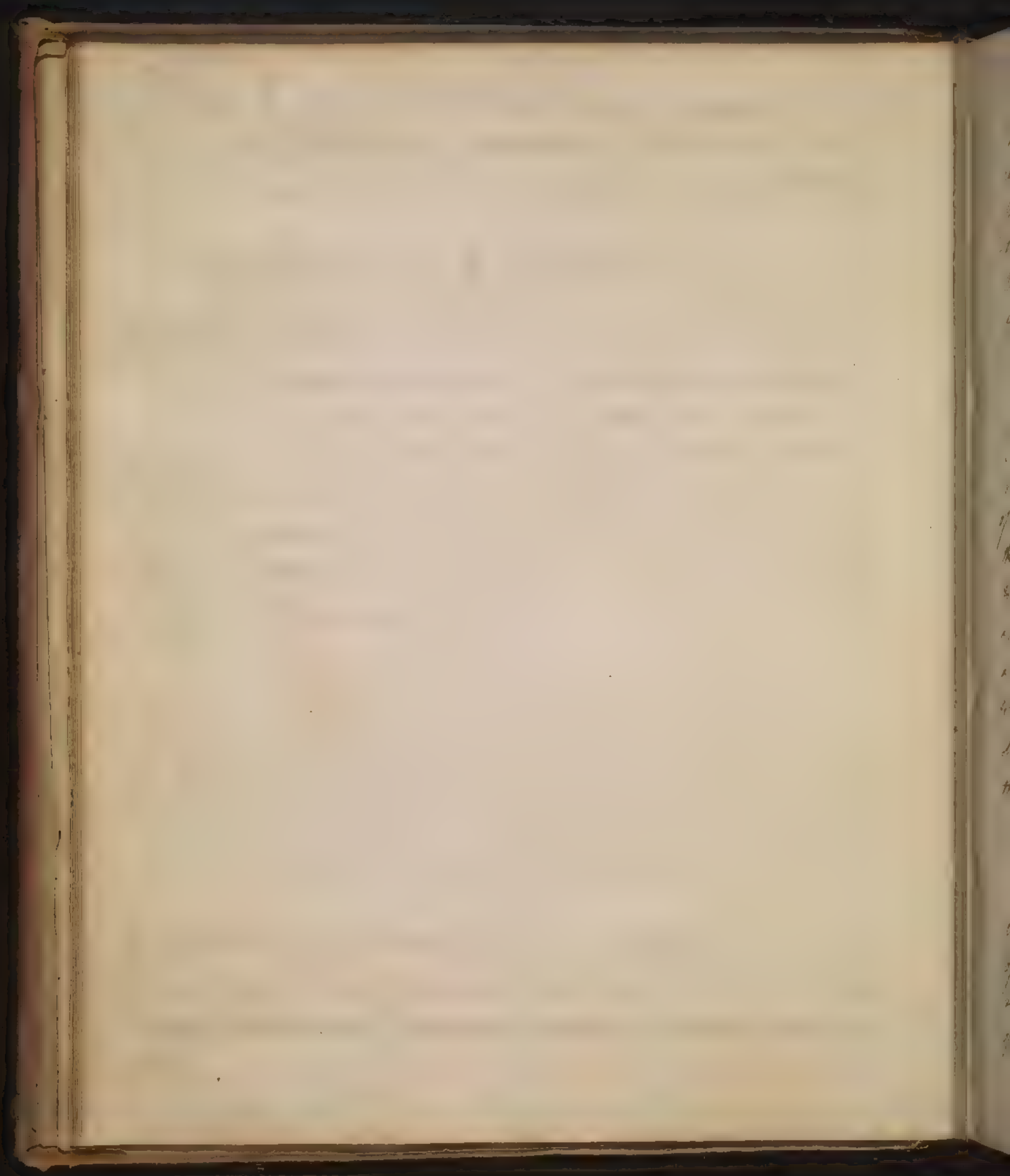
No Student of Physics ought to be too easily carried away by the opinion of any one; but he should study different opinions, and then judge for himself. Therefore I think the present way of teaching will conduce more to the benefit of the Students than the plan pursued before: And this alone was the view that brought me here. It was not that I thought myself better qualified than others, or that I desired to disparage the abilities of others and show my own; for it was at the desire of the Students that I came to teach this branch; and nothing but a view to their advantage could have induced them who have the Management of the University to admit of such a change in the department of the Professor.

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It would detain you too long at this meeting to give any sketch of our plan, and the arrangement of the Course: Therefore I shall only observe in general, that I am to proceed on a Dogmatical Plan, but at the same time would be sorry to be less accurate than any other in the enumeration and arrangement of Facts; so that still likewise to be in every thing that an Empiric plan would require.

I shall now give you the Primary Introduction to a Course of Lectures, by which I mean a history of the branch. I here expect that the Gentlemen are already acquainted with the gene

ral



general History of Physic, as far as it respects the several Sects which have subsisted, which I delivered under the Institutions - I shall therefore confine myself to the state of the practice in different ages, in general - you will be better qualified to understand me when speaking of the particular parts of the method of Practice, followed by ~~many~~ particular Physicians, at the end of the course, after yourselves are acquainted with the practice; at which time I propose to give an account of the Authors &c.

The first state of practice which we shall begin with, is that which would take place in the original rude state of mankind, and would take its rise in the first beginning of society, from the suggestions that would naturally occur to men under uneasiness, and the troublesome feelings of disquiet, who are prompted to make essays for their relief; and also from the Observations of many spontaneous Cures which they would endeavour to imitate - This is called the Natural state of Physic, which many at this day are disposed to admire, and assert that by it many notable Cures are daily made - However, I am of Opinion that this Attachment to the natural physic of mankind, arises altogether from a Veneration of Antiquity, or prejudices in favour of Empiricism, together with a love for the marvellous; by which they are superstitiously led to credit the relations of such Extraordinary Cures.

The only thing valuable in it is the efficacy of the remedies, by which Old Women, and such persons as follow this natural state of Physic, are said to have made sometimes great Cures - Yet this do not go very far; for from the Indians of America, who are in this natural state of practice, many specifics have been introduced among us, to which
great



great virtues have been ascribed - They say the same of our High-landers of Scotland, where it is said this natural physic prevails - and old highland women have been famed for making great cures; and even their prescriptions preferred to those of Physicians. It seems, however, that the practice of the highlanders is altogether at random: and if they do make any distinction, it is so inconsiderable, and, perhaps, ridiculous, that if they make any cures, they are the effect of chance; for they do not proceed on any principles or regular determined foundation. I remember to have seen an old woman in the highlands carrying an armful of common Digitalis, or Fox-glove, a plant that is taken into our Dispensatory; and knowing that it was not an Eminent plant concluded she had gathered it for the purposes of Medicine. Upon enquiry, instead of finding the virtues commonly ascribed to it confirmed by the disease she used it in, I was informed she was going to give it to her husband in a Mania; that she had never known it used before in that case, but had a mind, among other things, to try it - Their practice, then, is wholly at random -

I said that the merit of this natural physic consisted altogether in the knowledge of remedies; and therefore as an objection to it, it is to be observed that many superstitious remedies are always employed in it, as Amulets, Charms, &c. &c. and none of these could have any effect, unless accompanied in their application with officious remedies - Indeed superstitious opinions, and the mixture of superstition with the application of remedies, have always been more or less a disgrace to the Profession.

(Further)



Further, during this state of physics (as was influenced among the ancient Egyptians) the art was entirely in the hands of the Ministers of Religion, which was occasioned by a few artful men undertaking to lead the rest. This has often been done in Law, Physics, and Divinity, as, having such a view, they would readily take hold of such things as carried the 'mystic' of men.

In Egypt the practice was confined by Law to a few Remedies that had been introduced, and supplied, and none but these were allowed to be applied. This effectually put a stop to every improvement; but as no patient was ever sent away without something being prescribed, it was necessary to invent many placebos to serve such purposes.

At this time, while the art was confined to the Temples, the Practitioners had to do only with Chronical Diseases, such as were brought to them. But afterwards they sent out Clinical practitioners, who went about and visited the sick in their beds; during which period different sects of physicians arose. As to the State of physics in this time, we are in doubt what it was, even in Greece. However, it was at this period that the great Hippocrates flourished; though with regard to him, we cannot say exactly when he lived, or what were his writings, or the particular Opinions he held. However, at that time Physics had got on a better footing. The history of diseases was now extended to, and they had made some advances to

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b.
a system. Moreover they now attended particularly to the
Regimen in diseases; and many Operations in Surgery were now
in practice. However, amidst the many confused writings
ascribed to him, they have undergone such changes by copies,
and have had such different and various Interpretations laid
upon them, that we cannot say any thing in particular with
regard to his System. All that we know is, that he proceeded
on a Dogmatic plan; and from the accounts that we can ga-
ther of him, we have sufficient reason to conclude that he was a
very great man in his time.

The plan which Hippocrates followed was Dog-
matic, yet it would be very silly and extravagant in any one at this
time to quote him on a Physiological subject, and whoever
does it may indeed shew his learning, but very little
in commendation of his subject. Hippocrates and the other Dog-
matics, his followers and Contemporaries, though they entertained
theories, were not very nice in the application of them; and
in their practice formed general Indications only, upon which
they proceeded: such as "to take away the redundant Bile". They
also laid it down as a rule that Nature cured Diseases,
and that her method was to be followed by the Physician, &c.
I say it can be shewn, that their practice, even upon such
a plan, is better conducted, and on a footing preferable to that
of



of Impericism.

7.

About this time, then, and for some time after Hippocrates, all physicians are supposed to have been Dogmatists; but we can say nothing of them in particular. However, at least two great men appeared in the profession, of whom we can give an account somewhat more particular.

The first of them was Erasistratus. He made many discoveries in Anatomy, and as he was an accurate dissector, and consequently formed from thence many theoretical notions and maxims; but then he allowed to have too absolute sway over his practice, and not not considering they were conjectural - Accordingly he was led to throw bleeding and purging entirely out of his practice, which was a manifest abuse of Theory, as these are known to be very powerful remedies, and highly useful in many cases - But he made another abuse of theory, which you will esteem more excusable in the Physician, though perhaps not less pernicious to the patient. That you may understand this, I must observe that Theory tends to make men doubtful and cautious in their practice; and by it they become timorous in the use of harsh medicines. This was the case with Erasistratus; and as it had been the practice before his time to use drastic purges, he perceived the bad effects that often arose from them, he therefore proceeded on the opposite Extreme, either using no purges at all, or the mild Dietetic ones only - The maxim Saltem non nocere



Acute, which was given by Hippocrates, and is a maxim which prudence and our own hearts naturally suggest. It was strictly followed by Erasistratus.

Nearly contemporary with him was Herophilus. He also cultivated Anatomy, paid strict attention, and took a great deal of pains in accurately examining and ascertaining the pulse, and other parts of Pathology. He also searched much after remedies: and indeed this may be the pattern of the present age.

Much has been said in the commendation of the Empiric sect which appeared soon after, as a proposed plan of studying and practicing Physic; and was imputed to Herophilus, and his Disciple Phlegon of Cos. But it appears that their plan is rather specious than well founded; for they never have had any effect either in exploding Theory or improving practice; at least they leave no trace of it. The noted Sextus, though he has been surnamed Empiricus, was not so in his profession, but proceeded in his practice on a dogmatical principle.

You will observe that I am delivering at present what may indeed be called history, but which is not strictly such. All I intend is to give general reflections on the different forms the practice of Physic has met on at different periods.



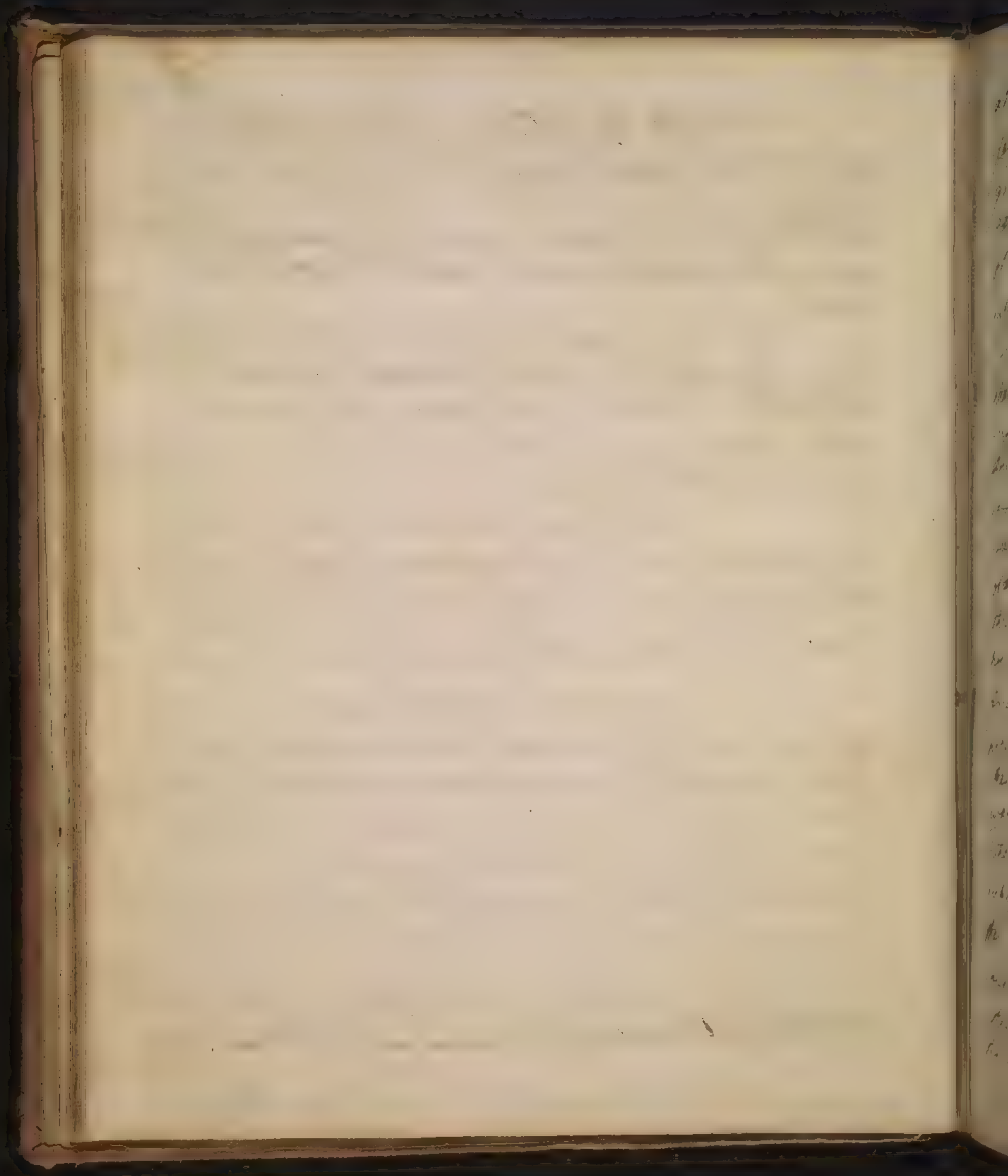
The first state of Physic which I mentioned, scarce deserves to be mentioned at all - It is merely such as this day prevails in many parts of the world, where Science is not cultivated; and even as near as in our own Country, where the man of the mountains has been supposed to perform great Cures.

Next, physic appeared connected with religion, as was the case in Egypt, &c; and we all know that there was a time when the Druids were the only Priests, Lawyers, and Physicians - Tables relating to Physic in this period being hung up in the Temples Dedicated to Esculapius.

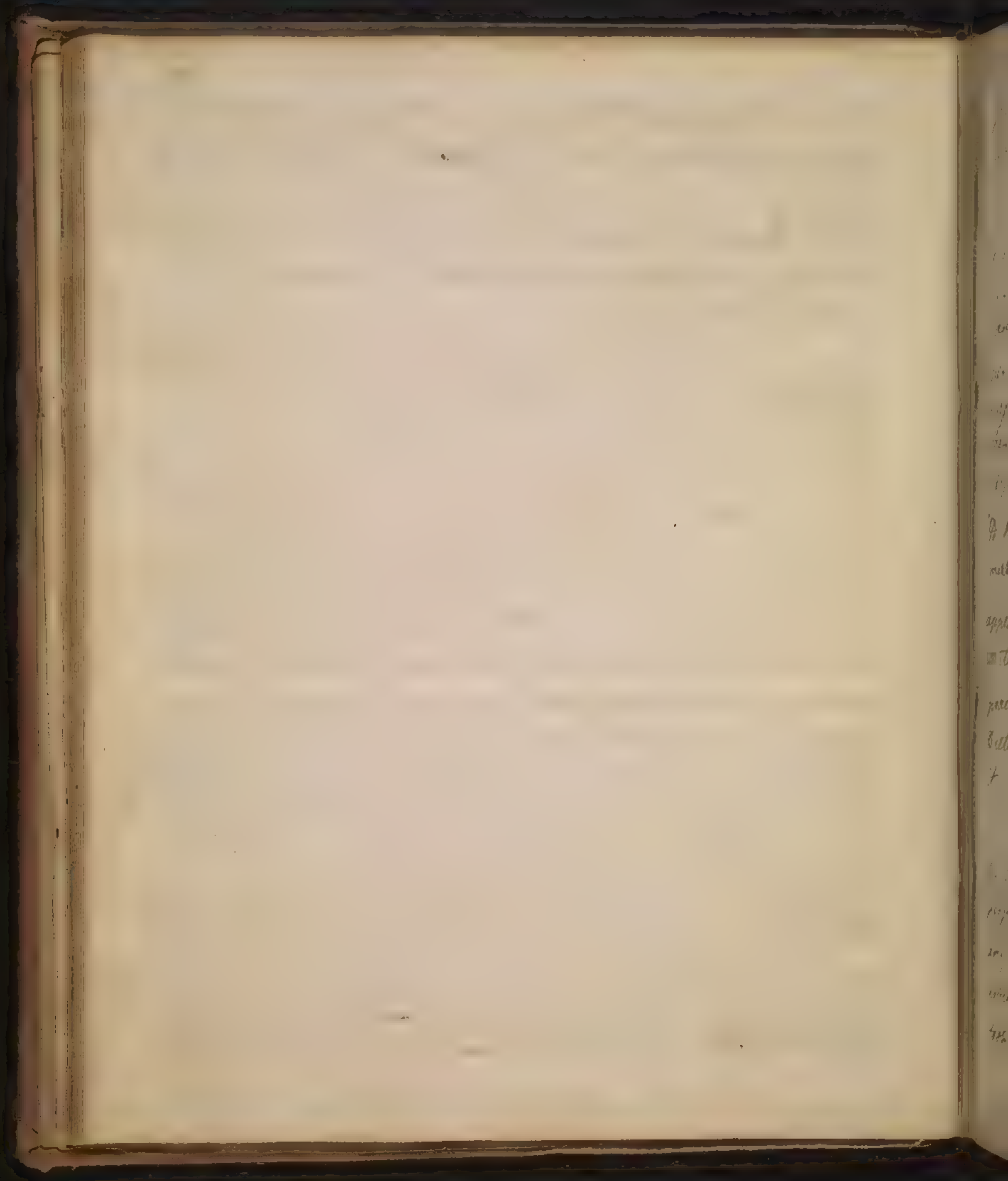
Then we viewed the state of Physic in the days of Hippocrates, which, with the Character of this great man that I would give you, is briefly summed up in what Dr Boerhaave has said of him; whom you may consult.

The first remarkable deviation in Physic after this, was made by Erasistratus - He connected theory with it, which he trusted too much too, allowing it to govern his practice entirely: But immediately after him came Herophilus, who, on the other hand, as much disregarded theory: and it was either by him, or very soon after, that the professed Empire fell away.

The next remarkable state of Physic was in the days of Aesculapius - This carries us over to Rome, where
at



at first they had no Physic among them, but what was per-
 -formed by Charms - Here Aesculapides conducted himself with
 great policy - The Romans before his time had got a prejudice
 against the Greek Physicians, on account of the cruel Operations
 of Surgery performed by Arcagathus; and altho, we have not
 sufficient Authority to say, at some apart, that the Greek phy-
 -sicians were all banished the City on this occasion, yet it is certain
 that the Romans for an hundred years before this had been ex-
 -posed with strong prejudices against the physic of Greece -
 And indeed it would be necessary to introduce it by degrees, and
 some time would be required to reconcile them to the disagreea-
 -ble practice of physic - Now Aesculapides observing this prejudice
 of the people, recommended himself by adapting his practice to
 their tempers, and humour'd their Luxury - according to
 his practice mostly consisted in the various methods of Effusion,
 friction, and managing the use of Wine - By these means he
 professed to cure Colds, Fevers, et Jucunde, which was altho
 -tho consonant to the luxury of this age in Rome; altho it
 was the last of the three (that he chiefly studied. This me-
 -thod of practice will always be more or less followed in a
 sickly age, where luxury greatly prevails, especially among
 the higher ranks of people, who are generally most luxuri-
 -ous, and consequently most intemperate - And in such circum-
 -stances many Placebos will be necessarily invented - Besides
 this Aesculapides also contrived a theory according to the philo-
 -sophy



philosophy of his time viz. that of his contemporary Socrates, which also had some effect in recommending him.

After him Theophrastus methodized his Theory, i.e. added it some more precision, which was the beginning of the methodic sect, of which all the principal physicians at Rome were till the time of Galen. During this period the two well known authors, Celsus and Aretaeus Cappadoc. lived, who were the only physicians of note among them who left any writings. Celsus indeed was not a professed Physician, i.e. not a practical one; and does not seem to have adhered very strictly to any particular sect, but was as much an eclectic as human Nature will admit; for it appears that he was inclined to the methodic sect. The other writes, Aretaeus was of a sectary called the Pneumatic. His practice was bold and expensive; for every means in his power, Dietetic, Pharmacutic, and Chyrurgical were employed in it.

After this followed a very remarkable period, begun by the famous Galen. Heithers the state of Physic had been much perplexed, and on an erroneous footing on account of the Opposition and Extravagance of Sectaries: but in this next period physicians erred as far by a worse imitation. In short Galen at that time took the lead in Physic, pretending to follow the system of Hippocrates.



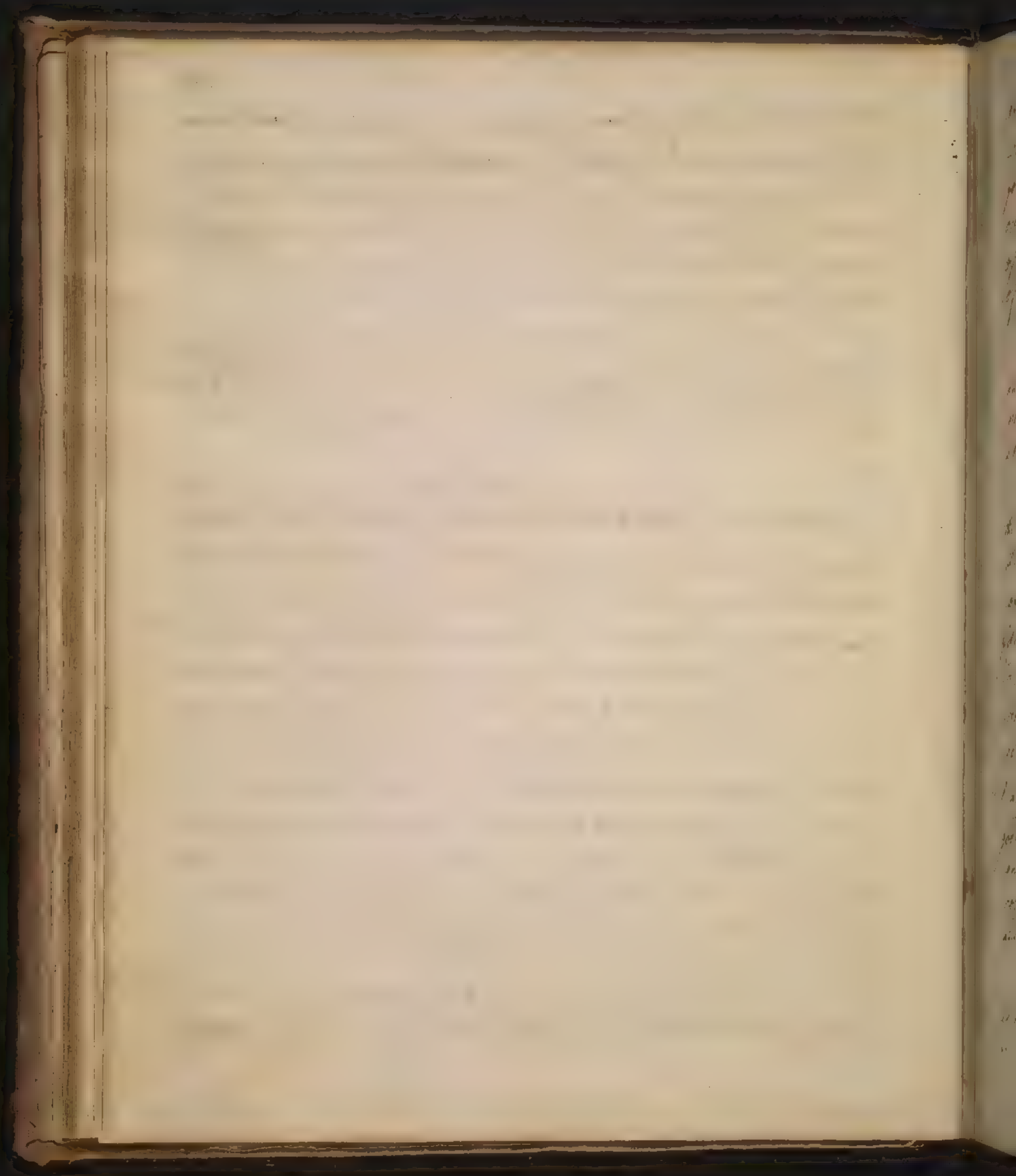
Hippocrates - He admitted in his practice all the remedies he could apply, and that is all that can be said for him; but he also established a Theory on a very narrow foundation - Many Physicians wrote after him in the succeeding Centuries; but all followed Galen exactly - This was occasioned in great measure by the fall of Literature, which took place soon after Galen's time - Learning was indeed cultivated in some degree, in the mean time, in the East; and there was by that means a chance of its revival, remaining with the Arabians, or at least the Writers so called, whether they lived in Asia, Africa, or Europe - By means of these Arabians, then, Physics was in some measure restored in Europe - However from the 12th to 16th Century the Physicians of Europe were wretched imitators of Galen - But about this time the Greek Language began to be revived; and now there arose a dispute among the Physicians, some of whom were for restoring the physics of Greece, and others for keeping to that of the Arabians their Teachers - By these the famous dispute was handled about this period concerning bloodletting, which made so much noise at that time all over Europe - However, both the Greek and Arabic were entirely Galen's system; for in the main they were both in imitation of him. This division was not sufficient, but something stronger must necessarily occur to overthrow the system of Galen - Accordingly soon after Paracelsus appeared. He made Chemical remedies more known, by which he made many notable cures: And
being



being of a bold overbearing temper, openly declared himself an Opponent to Galen, Avicenna, Hippocrates, &c. and making a great noise with his efficacious Chemical Remedies, succeeded pretty well - However the Chemists (who were the followers of Paracelsus) trusted too much to their remedies, and thereby came to neglect a proper attention to diseases, which was a fault not to be found in their Adversaries. Thus the practice between the Chemists and Galenists was very different, each having very different Principles - An attempt was made to join them two together, but it was destroyed in the beginning by the prejudices of Adversaries.

At this time all the Schools of Europe were filled with Professors of the followers of Aristotle, and consequently his Philosophy prevailed through all of them - But in the beginning of the 17th Century Galileo made out his system, which overthrew that of Aristotle, and in consequence the Physics of Galileo, which was so much connected with it - In this Century Experimental Philosophy was admitted, and the Chemists were cherished; and, what is very remarkable, the Legislature of Paris at this time made a solemn decree to restore the use of Anatomy in medicine, which but an hundred years before they had in the same way condemned, and absolutely forbid its use. Other Circumstances also concurred to produce this change in the state of Physics, as the discovery of the Circulation of the blood, which effectually overthrew the famous system of the Lives by Galen.

The Chemists now formed to themselves a short system of acid and Alkaline, neglecting the Organic system altogether, and



and therefore might have been more strictly called Humorists, which was the Epithet given by Van Helmont to the Galenists; for the Galenist admitted of Plethora, though in the main they overlooked the Organic System, and went chiefly on the qualities of the fluids. Even the *Sold* methodic sect took too limited views of the Organic System.

However, now the Circulation of the blood was discovered, and Mathematics, which gave a quite different face to Physic, as it appeared under Sylvius, De la Boë, Stmüller, and Willis, who were the leaders at this time.

But an accident happened soon after which greatly changed the Practice - Dr Sydenham started up, and became famous at London. He adopted the *Prædicta*, or *Natura Morborum Medicatrix*, which had considerable influence on his practice - He sought for theory to connect his facts under general heads, and not for facts to confirm his Theory - In short, he gave a model which every judicious practitioner ought to proceed upon - At present indeed, the bulk of Physicians profess to disregard Theory altogether, and adhere to Experience and Observation only - But this is true in profession only; for every one of us has his Theory, good or bad; and the Dogmata of the Physician will always have considerable influence on his practice. - I shall need proceed to take notice of the particular Opinions that are at present held in Physic, and which, therefore, influence the practice of this age.

The first system of Physic which I shall mention to you, as now prevailing in Europe, is that of Dr Stahl, which first appeared in the end of last century, but of late, within these thirty years past, has begun



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begun to ~~fade~~; and it is remarkable that it was never received by anyone in Britain till lately since it has been on the decline: While at its greatest height in Germany it never entered Britain.

This system chiefly consists in the Doctrine of the *Natura Morborum Mediatrica*, or, for the sake of a shorter expression, what we call the *Autokratia* - The Doctrine of the *Autokratia* has indeed been always admitted in Physic more or less; but by Dr Stahl it has been carried much farther than by any other. Stahl thought that all the functions of the body were conducted by the Rational soul; and therefore he and his followers neglected the study of anatomy and the Mechanism of the Body - On the other hand others have confined themselves to the last, and, rejecting the Existence of an Immaterial rational soul, have adopted Materialism - However few Philosophers and scarce any physicians at this day deny that there is a rational soul connected to the body - It is indeed best to proceed in a middle course between these two Systems, as Hoffman, Boerhaave, and White have done, and therefore have acted more consistent with Justice and the promotion and improvement of their Science.

I shall say, for my own part, altho I think it of little consequence in Physic, that I admit the existence of a rational soul, but would confine myself to the mechanism of the body, and meddle with this only so far as the *Autokratia* is connected with it - But Dr Stahl's system does not depend on the concern the soul has in the *Autokratia*, as appears by a remarkable passage in the preface of Junken's *Conspectus Therapeuticus*. In short, the effect of



of Stahl's system has been to give a timid and feeble practice. According they reject from their practice the use of Bark, Quinine, and many other efficacious Remedies. However, after all they are obliged to adopt in some measure the mechanical state of the Body. Thus, they say, that the constant tendency of the system is to Phlogosis, and that it is the perpetual work of Nature to obviate it; which notion also gives some particularities in their practice. This general Doctrine, indeed, supersedes all Theory, but Dr De Haen has attacked them very strongly, and with great success, in his dissertation de Haemorrhoidibus. However, this system of the Stahlians would not thrive after the improvement of Philosophy, and the study of Mathematics. But at this time Bellini and others applied Mathematics and Philosophy to the body, and had begun a reason concerning the functions on Mathematical principles.

In this state Dr Boerhaave found Sydenham, who was a proper person to reduce it to some tolerable system, being a man of general Literature. He adopted the mechanism of Bellini, then in fashion, and admitted many things from the ancients, adapting his system to the facts related by Hippocrates, Galen, &c. and especially those of Sydenham. In short Dr Boerhaave was a man of very extensive Learning, and worthy to be greatly esteemed. I think a great deal of his system, and recommended it as the best for you to follow. But anyone who considers that since his system was first made known, 60 years of a very industrious age have elapsed, in which many Improvements and discoveries have been made in Science, cannot expect but that by this time we should take upon us



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to think somewhat for ourselves - It would indeed show great
prejudice and very little genius if we should not.

I could give you many examples out of his system, in
which he is very incorrect, but as it would spend too much time,
I shall hint only at a few.

1st his doctrine of the simple solids, which makes a considerable
part of his system, is likely to fall every day; and he takes little or
no notice of the living solids -

2. What he says of acids is inconsistent with his own Chemistry; and
his Glutinosum pingue is not on a better footing than it was
in the time of the Cartesianes. Tho the experiments of Bringle &
H'Bride have thrown great light, since his time, on the Nature of
Scorvy, &c.

3. In his general Pathology he has given with great accuracy the
affections of the Circulation, &c, but has omitted to take the least notice
of the whole moving powers of the system, and did not consider how
far the phenomena of the body might be owing to the affections of
these independent parts of the simple matter of the body, &c. The
Nerves indeed were the last part of anatomy that was cultivated; for
it was first attempted within these hundred years by Willis, unless
you look upon the reveries of Van Helmont as such. Therefore
the consideration of this part renders the system of Physic complete -
It was added by Dr Hoffman, and now, so far as I see, the system of phy-
sic is complete, as I do not see what else is to be added to it, consisting
of three parts, the Nervous, Hydraulic, and Chemical systems, or

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according to the view I formerly gave of it in the *Enthikthion* -

This finishes the account of the Systems of Physic at this time, prevailing, and influencing the present practice. I shall add a short summary of them, as they are at present received in the several parts of Europe -

That of Boerhaave generally prevails through Britain, France, Italy, &c. where Physicians particularly attend to the functions of the Circulation, &c. -

Hoffman has at present but few intelligent followers, and even then for the most borrow many things from Boerhaave.

Even Van Helmont has at this day a few followers.

The chief thing we have to attempt is a pathology of the Nervous system, which has never yet been attempted by any one. Accordingly in this course I hope to show that it can be done, and that in such a manner as to improve the practice of Physic and assist in the cure of diseases.

I have now given you a general view of the state of the practice of Physic, as it prevailed at different times; and especially as prevailing at present in Europe. I propose next to consider what plan we are at present to follow in teaching this very important Art.

It is absolutely necessary that all students one time or other should study this with attention, so as

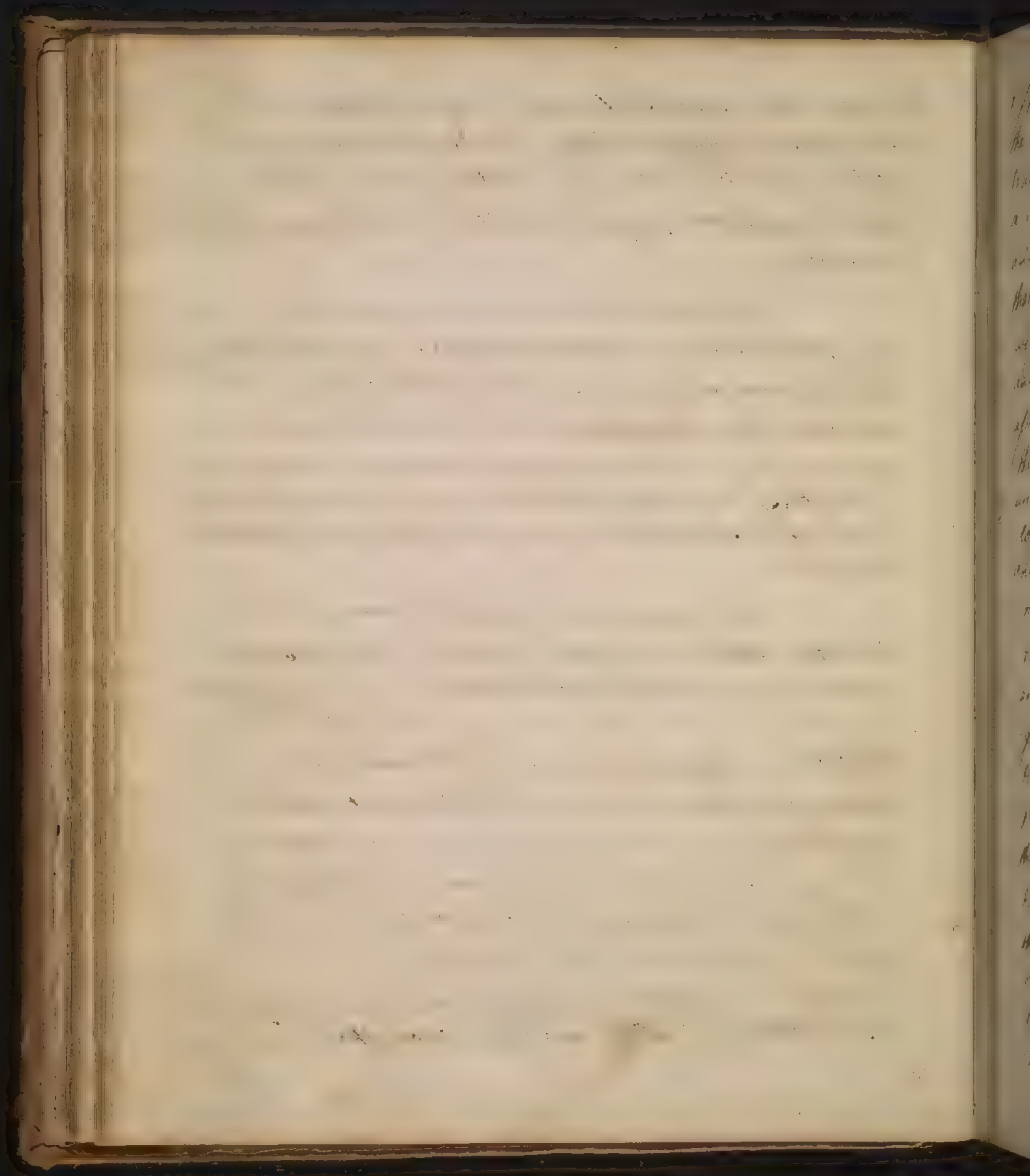


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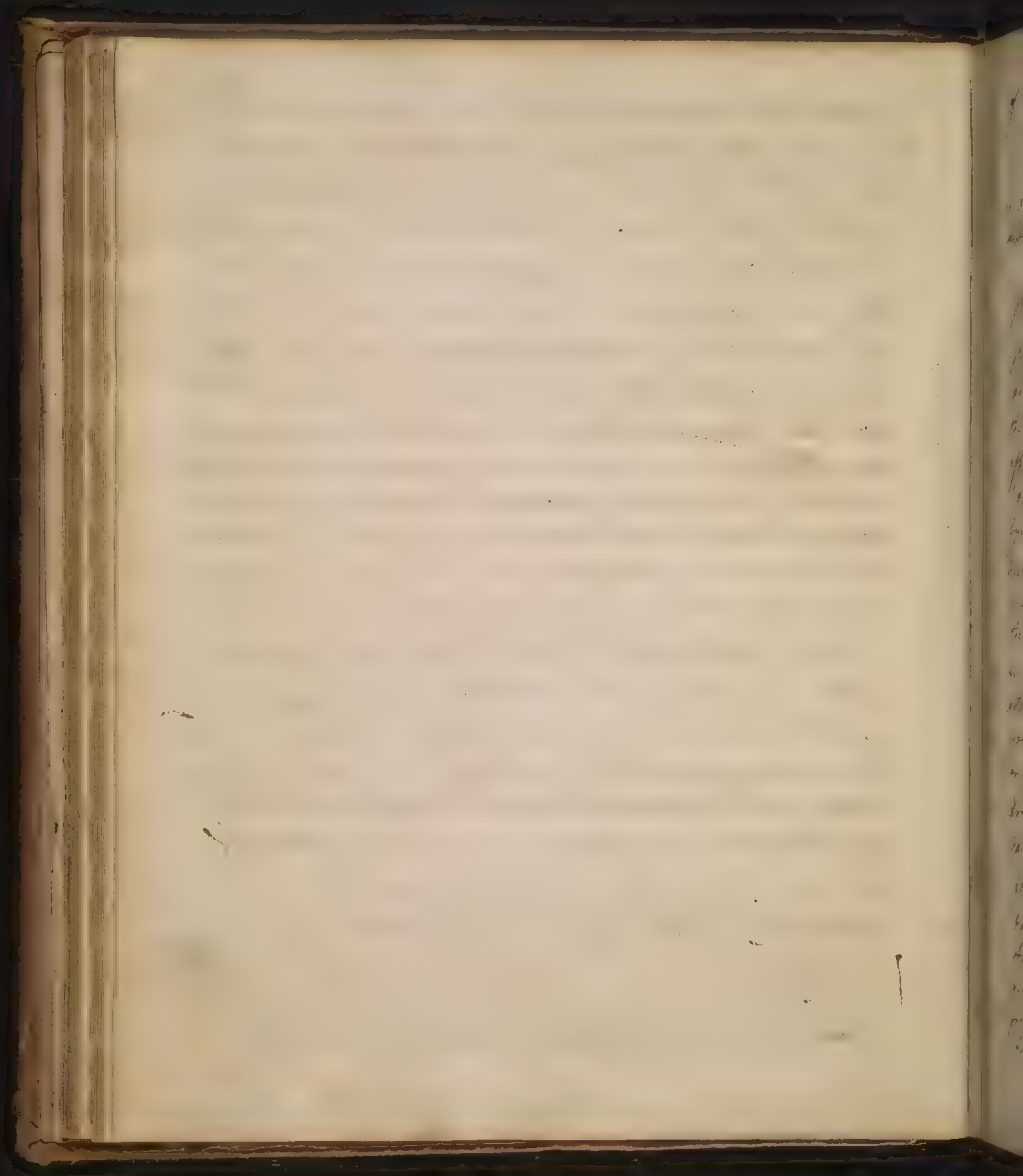
To know the merits and demerits of different plans, i. e. their advantages and disadvantages, and how far they may with safety be depended on; for whatever care we may take with regard to particulars, a great deal depends on the general plan we follow.

In my last Lecture I in some measure told you where the greatest room for improvement lay. I say, that at present we have a more useful and a better Theory, use it more cautiously, and constantly attend to Observation and experience. Our Theory is better, because our knowledge in Anatomy is more correct and complete; and our Chemistry is also more complete and systematic, and more applicable and useful.

The present age is jealous of Theory, and examines it to the bottom: hence greatly employed in collecting observations - Hence also the great Compliment paid Boerhaave by Quercet, when he calls him the author of Collective Physic - Besides we are now better acquainted with the History of Nature, and more light is thrown on natural Philosophy - Thus our knowledge in general is much enlarged in comparison to what it formerly was, and that particularly with regard to disease; for here we have been of late taught a great deal by the Dissections of morbid Bodies. Therefore I say that at present our Theory is on a better footing, yet at the same time allow that in many respects



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respects it is imperfect - And I even esteem it one of
the merits of the present age, that Physicians in general
trust little to Theory, and never admit it unless proved as
a matter of fact. Theory in weak minds is apt to be abused
and misapplied, so as to be of ill consequence; but I say
that a man of judgement will always be able to use it
with propriety and advantage, well knowing the nature
and powers of the Instruments he has in his hands: And I
assert that the more attention he spends in the study of it,
the better he will be able to make a proper and advantageous
use of it. But (as I said before) the present age is very jea-
lous of Theory, lest it have not a sufficient foundation:
and Physicians are, therefore, much inclined to make Experi-
ments to prove, or try, the truth of Theories; which I also
reckon another article in the merits of the present age,
as the consequence of it is to collect a number of facts to-
gether, which is chiefly advantageous, and tends much
to increase our knowledge. In this, indeed, the greatest
part of Dr Boerhaave's merit consists (according to
the Character given of him by an excellent Author; for
he was very diligent in collecting facts, &c. Now I say
that whoever is thus diligent in the collection of Facts
necessarily uses them in comparing, arranging, and
forming more general facts from them. This even
Sydenham did, and all the most eminent Practitioners
of



of every age have done the same.

However, in the plan that we are to pursue there is a great deal that is more purely theoretical, which, therefore, might give offence to some.

The first Question that occurs, in the Cultivation of Physic, is, whether it is to be followed on a Dogmatic or Empiric Plan? I must first observe to you, that all the schools are on a Dogmatic plan, as it were, through necessity; while the Practitioners of Physic profess, at least, Empiricism, and affect to disregard Theory. By this they give students a prejudice against what they are obliged to write upon; which, by the bye, I look upon to be amazingly ill judged, and of the most hurtful consequence; for by neglecting theory they must neglect many important facts. I cannot at present pretend to discuss this Question at full length, but must suppose it done already in the Institutions, which I take it for granted you have all attended. If any of you have not yet studied the subject, I advise you that it is still worth your while. In this place I shall only observe upon the whole, that both Dogmatism and Empiricism have their advantages and disadvantages. Both have their defects, and are each in many respects imperfect; for there are as many false Facts related by Authors as there have been false Theories invented - and moreover I assert, that every practitioner, even he who professes himself most avowed Dogmatist, uses theory, and that too freely very frequently, and with the worst and most pernicious consequences on account of the general prejudices.

But



But to adhere more strictly to the point in hand —
In defence of a Dogmatic System I use these Arguments:

I.st I say that reasoning in Physic is unavoidable, from the natural propensity of the Human mind, and therefore, in order to render it safe, it is necessary to cultivate it in its fullest extent.

II. A Dogmatic Plan has been proved best for collecting and pointing out Facts.

III. An Empire system has lasted long: Mankind naturally tend to Theory, to explain every thing as Cause and effect. Sceptics may show the fallacy, but never contradict this propensity to Reasoning — The only remedy is to prove the Reasoning, and make them better reasoners, by engaging them in the study of the subject in its full extent. By paying much attention to a particular subject, and directing ones studies especially to it, that a man comes to reason more justly, and to have a more sound and comprehensive knowledge of it, so as to enable him to judge more accurately in matters relating to it than others; for no man will be cautious in reasoning, who has not been much experienced. Thus a Physician will often reason concerning matters in Law, but in so doing he only gives the Lawyer an opportunity to smile at his weakness and the shallowness of his judgement. And on the other hand, I know that a Lawyer will often make himself ridiculous, by attempting to reason in Physic —

In short, I really never yet saw a practitioner that did not use Theory; for at the same time that they are envying against it, and say "Paracelsus was a fool, Van Helmont



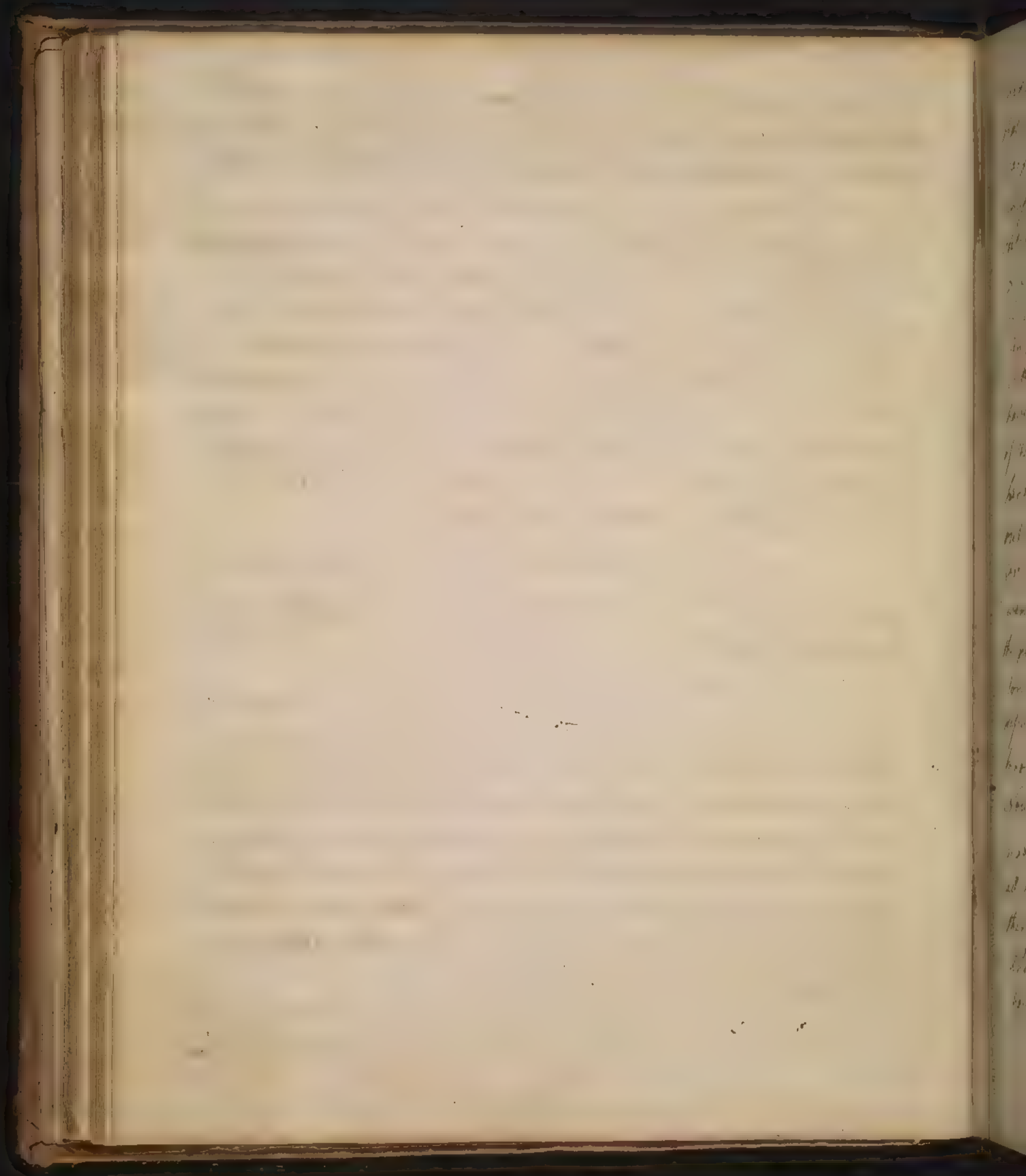
23.

"Helmont a madman, and even Boerhaave, among the rest, had his
Weaknesses" - Yet in their own practice you will hear them say,
"this man is Plethoric, and therefore must be bled" - "His sto-
mach of that is foul, and he should have a vomit to cleanse it -"
"And a third has his blood full of Arimony, and therefore ought
to be purged" - Now I say this is theory & all intents and pur-
poses, and that too of a wrong kind; for I have frequently seen
a fat man be deemed plethoric, and for that reason bled,
when it was evident the judgement was erroneous - I have also
often seen a man get a vomit when his stomach was not foul,
but laboured under sympathetic affection - and a purge ad-
judged another, with a view to evacuate Arimony, when he had even a
very slight Cutaneous Eruption only; &c.

Therefore I reckon the propensity to reasoning una-
voidable in men, and the only remedy for it is to engage men in
the diligent study of it in its full extent, so as that they may
use it with propriety -

By a Dogmatic plan only it is that we can expect to
enlarge our collection of facts, so as to form a system -
It is to be acknowledged that many of our facts in Physic, such as
the cure of disease by particular remedies, &c. have been disco-
vered by chance, and not by experiments made in consequence
of reasoning a priori; but then it has been the Dogmatists
alone that have collected and preserved these facts - This part
of my argument is known to be true - But the latter part,
perhaps, does not appear so evident -

I raise further that a Dogmatic plan is necessa-
ry to the enlargement of our knowledge in physic, and every
thing



24.
enlarging the collection of facts - to make this appear, I say,
that in order to render the collection of facts useful, it is neces-
sary they should be arranged properly - all the particulars
must be arranged into Genera and Species, as in every other
subject of the kind - In short all Practitioners agree that
a Nosologia Methodica is absolutely necessary to the
cultivation of an Empiric plan, and this author was at-
tempted, as I know about 40 years ago by M^r Sauvages, but
with what indifferent success every one of you must see who
have perused his work, and have any considerable knowledge
of the subject - However I shall soon put something into your
hands that will show how imperfectly the design of making
out a Nosologia methodica has hitherto been executed - There-
fore the chief requisite to an Empiric plan has as yet been
wanting - Further I say that even this does not at all answer
the purpose of directing our practice, which is a certain symp-
tom that the particulars are not properly arranged, or
defined - No one genus can be accurately defined, but from a
knowledge of all the species, or particulars, of which it consists.
Now, as it appears that the Nosologia methodica cannot be
made perfect till the particulars of which it consists are
all known and collected, our attempts in system must
therefore at present be to enlarge our collection of facts.
And now, by way of digression, I say a little of the method
how this is to be done.

I imagine that in the collection of useful facts
ours



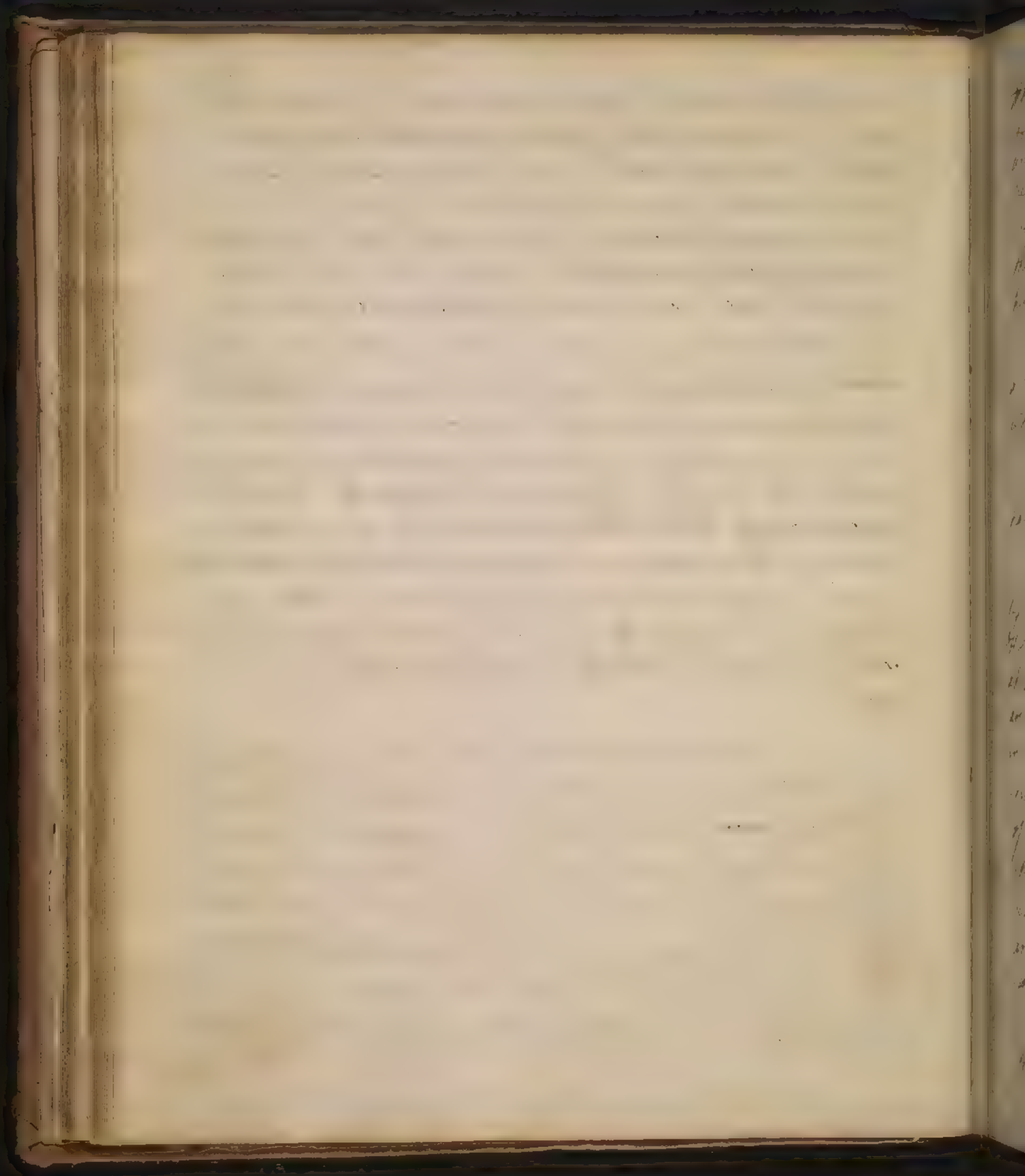
25.

our chief and greatest source is from the Dissection of morbid Bodies (Savages, indeed, profess not to admit or make use of this in their dissections, i.e. the internal cat, or proximate causes of diseases; but yet he tacitly does it, and indeed is under a necessity of doing it); and this too is the most accurate method by which we can collect our facts - Now this Dissection of morbid bodies cannot be done with a previous knowledge of the healthy state, nor can this be done without the study of Anatomy, and the use of the parts, which includes Physiology, &c. I have therefore now shown that our progress in system depends upon the study of particulars, and that this cannot be done to advantage without the knowledge of anatomy, Physiology, &c. - In short, it appears upon the whole, that at present we can have no other foundation for the improvement of our knowledge and attempting a system in physic, than the study of a Dogmatic plan; for without it we cannot with any accuracy ascertain the facts we would collect with regard to Pathology, or application of remedies, and their effects -

For certain reasons, which I do not mean to trouble you with, we are not to begin our important business as yet. I therefore choose to spend the time in engaging you in the study of the proper plan for the cultivation of Physick; and that more especially, as from certain circumstances, you are liable in this respect to be led wrong -

The Theory of Physick is a great and difficult work: Many youths have not genius, other industry, to comprehend it, and (what is more unhappy) others have not time and opportunity,

Thougs



26.

though blessed with capacity: Therefore we shall give an
- to such all the advantages that can be obtained from
an Empiric plan - Many practitioners who themselves have
been incapable of Dogmatism, or have neglected it, endea-
- vour to prejudice others against by their advice, from
the same principle that the Fox that had by chance lost
his tail, would persuade the rest to cut off theirs also.

For the sake of such students as are capable of
a Dogmatic Plan, I use, in defence of it, three Arguments
which I here propose to you.

First, that Dogmatism is unavoidable - This I
have already fully discussed -

Secondly, that all our valuable Books were wrote
by Dogmatists - And I also said that in physics, as in natural
History, in order to a system, it is necessary to pursue the study
at large - And Moreover I add, that though Hypotheses
are not generally to be admitted willingly, yet they are useful
in science; for it is to them that we owe the most of the Expe-
- riments and facts in physics and Philosophy - The system
of the Universe by Sir Isaac Newton, which is now so well
established by Experiments and Observations, was first
set on foot by preconceived hypothesis, &c. - Solitary facts
are often useless, but when collected and compared by rea-
- soning, are of the utmost importance -

Further, every one must allow that it is necessary
to take in remote Causes, along with other circumstances, in
Dis



27.

Discriminating diseases - Now a Dogmatic System is absolutely
to enable us to determine the Operation of these (as they are very
various, and as they are varied by the state of the body), so as
to ascertain them with any degree of accuracy; i.e. we must have
a knowledge of Physiology and Pathology -

Also, I say that a dogmatic system is likewise ne-
cessary to the ascertaining facts with regard to the Remedies
applied - The dispute concerning the peruvian Bark, the great
boast of the Empiric plan, viz. with regard to the proper methods
of using it, could be settled by the Dogmatists only; at least, I shall
hereafter show you that the matter has been brought to any
decision by the Dogmatic plan only; and the same is the case
with regard to other remedies, our facts in physic being rather
Inferences of Reason than Objects of Sense - In short, It appears
that it is impossible for an Empiric System to be perfect till a
Dogmatic is also; and that they necessarily go hand in hand -

My third argument for Dogmatism depends on this,
that any attempt to teach Physic on an Empiric plan has
hitherto proved fruitless, nay often pernicious - What Dr
Sydenham has done in physic may seem an exception to this,
and indeed so far as he has done it is commendable; but I deny
that what Dr Sydenham has done was on this Empiric plan -
His *Præcepta Integri* indeed appears so, but look into his
large work, and you will see that his Collection of facts is
upon a Dogmatic system -

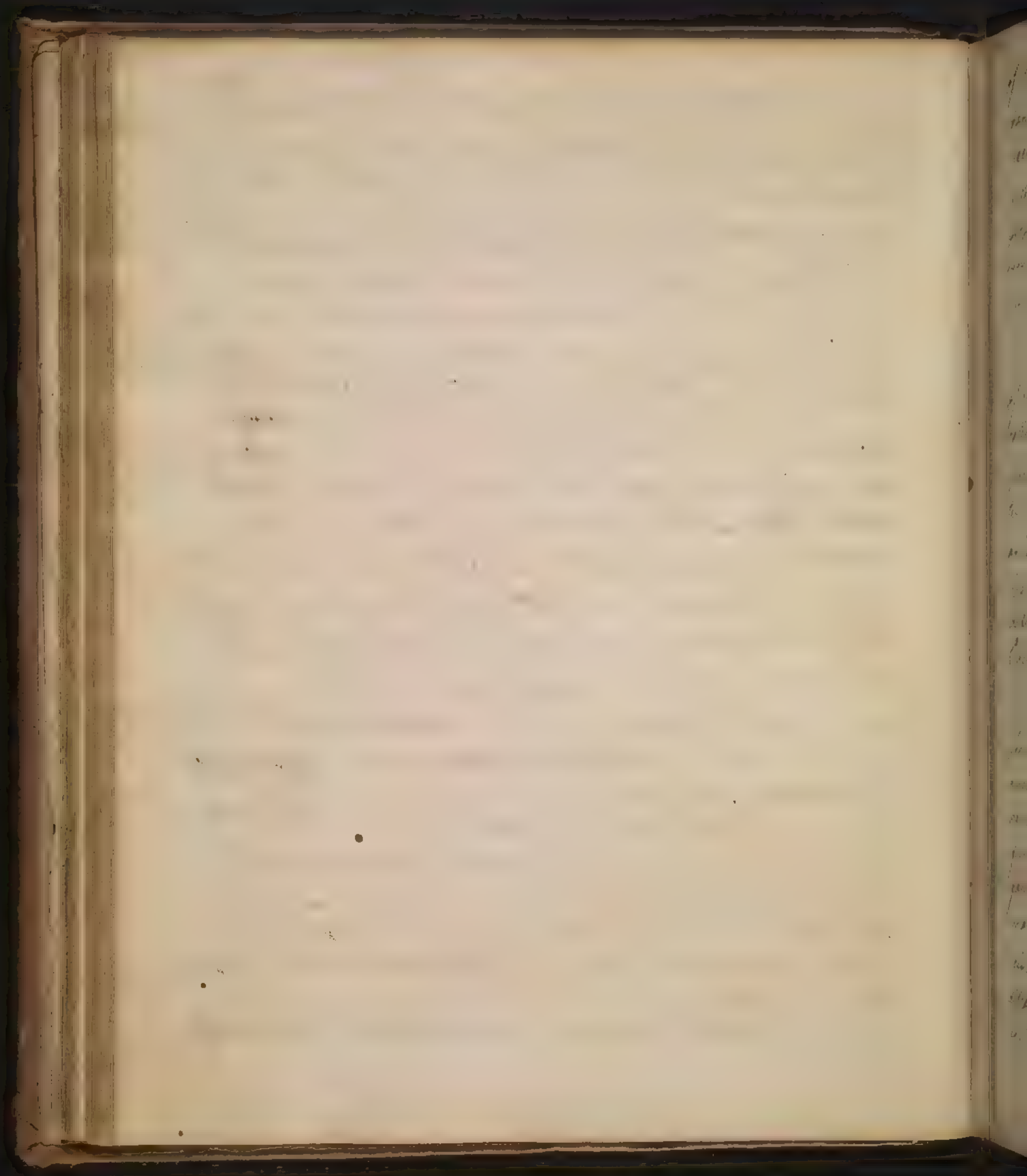
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28.

The Works of Dr Shaw of England, and M. Lieutaud are of the Imperie kind - The former is now much neglected by every one, and does not, therefore, merit our more particular notice. As to the latter, he says in the beginning, when speaking of the plan of it, that his design is to collect the facts of Physic - It is indeed an attempt to give an Imperie system - but does not answer the intention - I shall here only consider the work in the light of a system of Physic, and as a guide to practice - and as such it is in the highest degree imperfect (see, for example, what he says under the title of his "Affection Hypochondriacale" of the French Edition): He has nowhere ascertained the Genus of the Disease - He has indeed frequently attempted what is called in our Inaugural Dissertation, an *Historia Morbi*, i.e., an indigested *Paragoge* of symptoms enumerated together, but has never once attempted to reduce them to any order, or regularity of succession - He has often formed a Genus from a single symptom: hence in his history of it he gives symptoms of many different diseases, examples of which you will find in the *Dolores*, *Cachexia*, *Alvus obstincta*, &c. and also has frequently in the end given us the morbid appearances he has found from dissection, which he was much conversant and very experienced. But this part of his work edifies us no more than the rest; for as he does not connect his Dissections with any particular concurrence of symptoms, nor make use of them towards investigating proximate causes, they are useless -

Next he gives us a most undetermined method
of



of Cure, viz, a list of Remedies that were ever (or perhaps it may
be in the present practice of France are) used in every spe-
cies of the disease - See his introduction to the Cure of the
Asthma, which may apply to all the rest - Such practice is but
groping in the dark, which is indeed putting our practice upon a
very indifferent footing, where our Prescriptions are so undeter-
mined, and we proceed so much at random -

Next (in page 178 of his Latin work) see the List
of Remedies that is drawn up for the Cure - This is what he
calls knowing Practice - It is just such as every Apothecary's Ap-
prentice may know - But indeed I would not excuse an Appren-
tice of twelve months standing, who would give the remedies such
an injudicious arrangement - Mark how they stand "Whey,
Calves broth, &c" - Indeed M. Lieutaud himself marks what is the
defect here, viz, that we want the knowledge of the proximate
Causes -

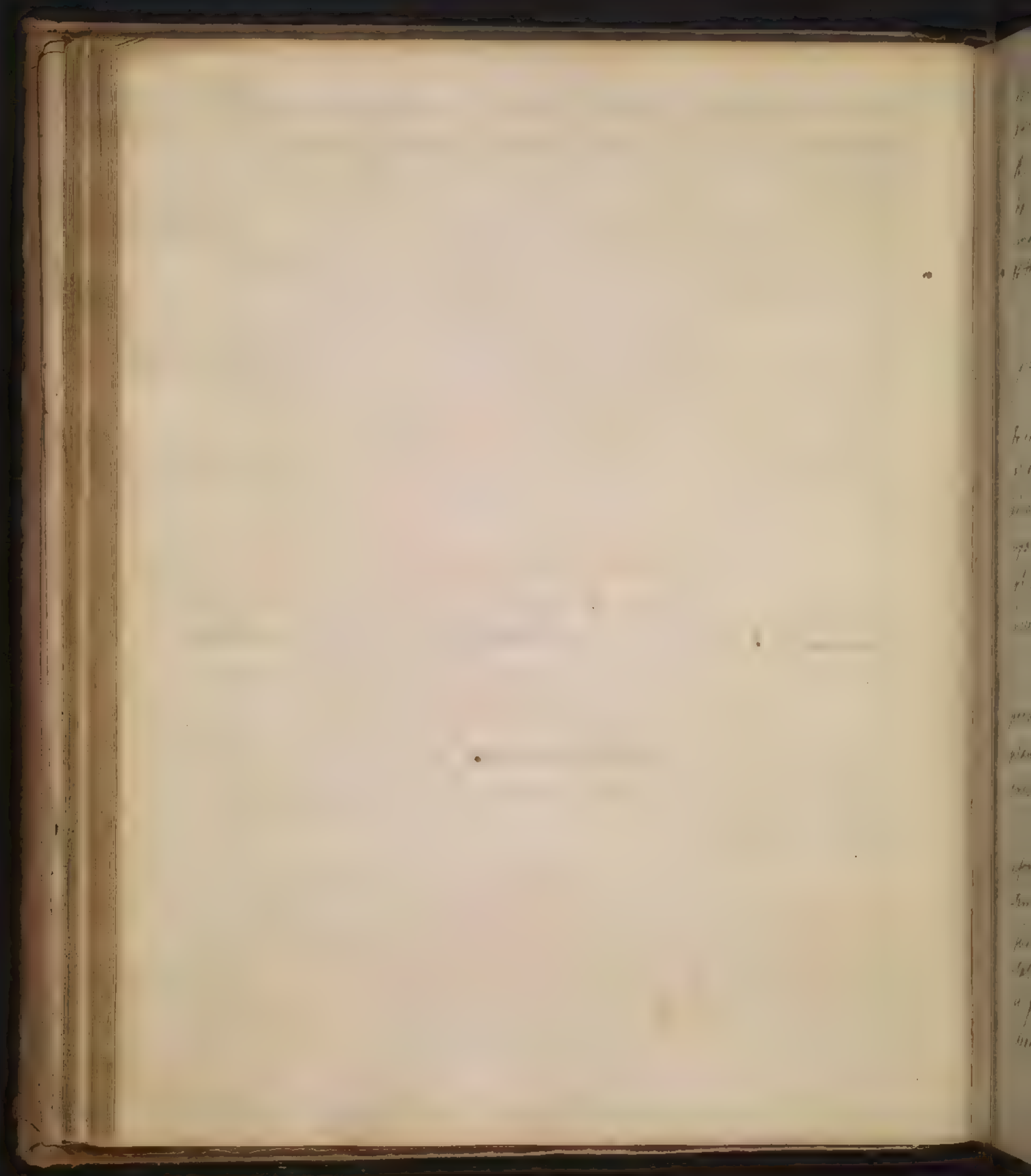
I could give you many more examples in M^r
Lieutaud's work - but I shall take notice of one more article
only, viz, a method of Cure - For the most part, when I
see a method of Cure laid down, I can, without seeing any
further, Judge what disease it is for - But here it is really
found otherwise - I shall read you over a Clause, and then, though
many of you have applied for years to the study of medi-
cine, and probably think yourselves pretty well acquainted with
diseases, I doubt very much if you can guess what the disease
is. (See the Example in Vertigo) - This, according to M. Lieutaud, is
a



a guide to practice. Whether will you say that all these remedies³⁰ ought ever to be used together? But I add that though M^r Lientaud in his Synopsis Medicamentorum afterwards arranges the remedies according to the Indications, or such principles as are laid down by Dogmatists, yet even now it does not answer the purpose of directing our practice. Such, then, is the necessity of an attempt to a system made on an Empiric plan! And I really believe that a system on such a plan, at present, impossible; and therefore it is absolutely necessary that we desert this, and attempt it on a Dogmatic plan.

I am persuaded that the farther you advance in your studies, you will more plainly see the propriety of studying a general plan, for the Cultivation of physic, and will therefore the better excuse my insisting so much upon it at present. I think it necessary to obviate an Opinion generally prevailing "that all theories are nonumus" - To the first argument I offered to that end, I shall now only add an illustration.

Some time ago there was a great Dispute prevailed in France, concerning the superior excellence of ancient or modern Science - Some chose to give the preference to the former - But M. Fontanelle adopted the side of the moderns, and, among other things, said, that they
had



had this advantage over the antients, that the more Opinions and theories they had already rejected, the nearer they were to the truth; for the greater the number of false Theories that have been rejected before our time, the fewer we have remaining still to reject; and consequently the nearer we are to the Truth -

I have nothing to add to the mon argument -

But as to the third, I observe that I was obliged to enter on a very disagreeable task, of criticising the work of an Author - I shall decline saying any thing more on this head at present, but shall take occasion hereafter, while we are upon particulars, to make such observations on the works of M. Lieutaud and others of the same sort, as I shall find necessary.

I hope you are all now well convinced of the propriety of pursuing your studies on a Dogmatical plan; and therefore, with respect to it, I shall take notice of only one thing further -

It is generally said, that however Physicians may differ from one another in the particular Opinions or Systems of Physic which they profess, yet their practice is just the same, and they all agree in one general established method - In the first place May the fact is false; for though good nature and their regard to decency may always give Harmony in Consultations, yet



yet I insist that wherever Physicians differ in their Theory, (if they are not under controul, but at liberty to do as they please) they will also differ in Practice. Formerly, indeed, all the practitioners of this place were of the school of Boerhaave, and held his Theories, for which I found them for the most part pretty uniform in their practice, being all directed by the same Opinions in theory; whilst a few remaining who were incapable of any Theory, endeavoured, as well as they could, to imitate the fashion established by others. I say, then, that in fact every man who has a particular Theory, will, if by himself, be swayed by it. Accordingly we find that the practice of different Sects is different; for every sensible Physician will see the difference between Galenists, Chemists, and Cartesians. No one can think with horror of the physician mentioned by Sienland, who according to Theory bled his patient 100 times in a year, and so killed him; never suspecting he was doing amiss. Or, without ridicule, of Van Helmont's death, who from theory refused to be bled in a Pleurisy, expecting to cure himself by a little Sanguis Theriacalis. But I mend your time in proving that no body doubts - I will only observe further that the established Practice has been laid down by Dogmatists.

I shall suppose that you are content to follow me in the study of physics upon dogmatical principles; but I must not omit to warn you that our Theories in the present state are liable to imperfections and fallacy - I would therefore advise that you be particularly cautious in receiving them.

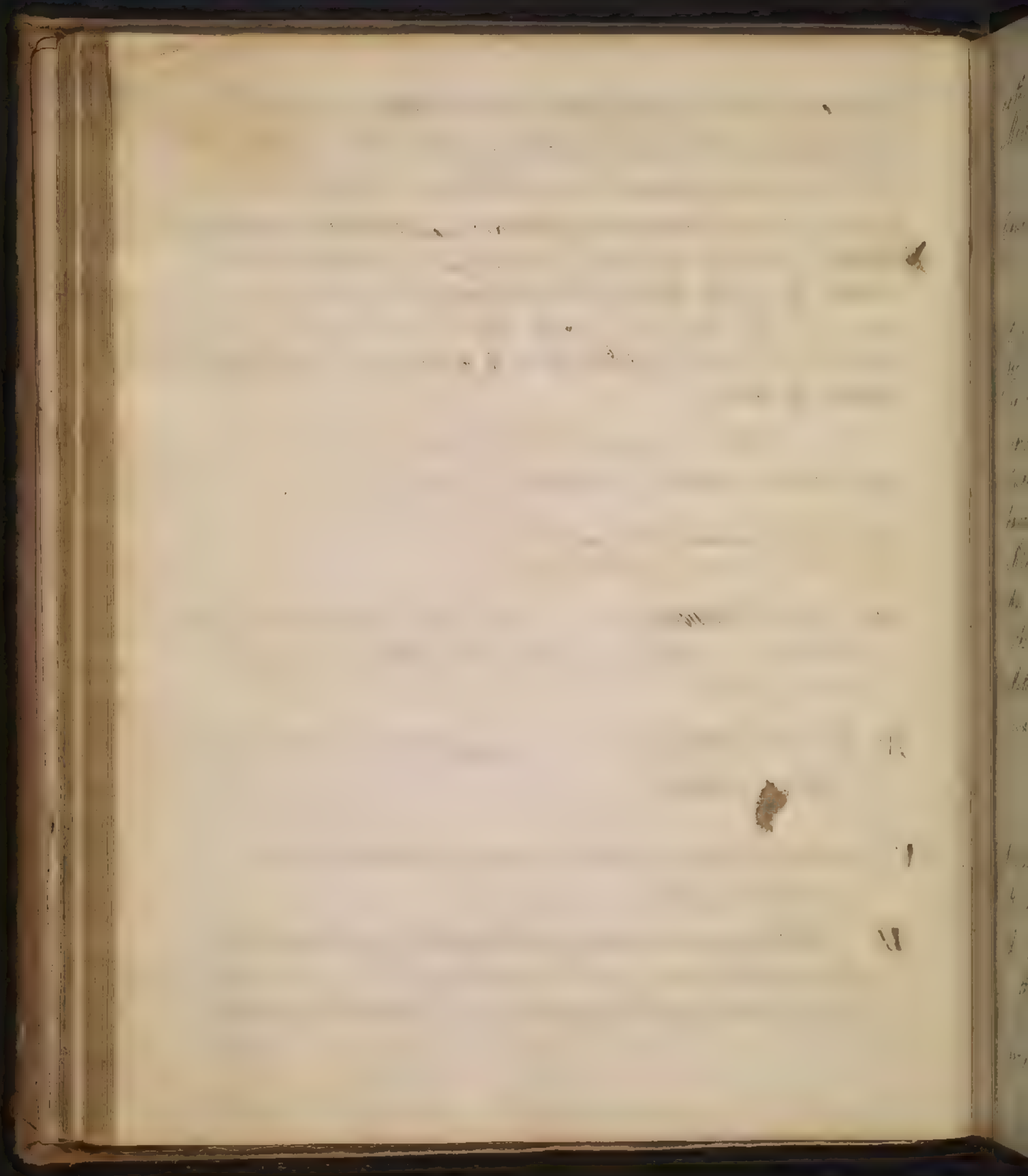
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and being aware of the fallacy to which they are liable, you will examine them with the most accurate scrutiny, and admit none that are not clear and plain - I shall endeavour to give you no conclusions that are contradicted by known facts. - At the same time I shall give such an enumeration of facts, that I should be ashamed if any course gave a better than ours; and then I shall arrange according to a Dogmatic plan, so as to assist you in the application of them.

Take it for granted that you know what I mean by a Dogmatic plan - It supposes a knowledge

- I. Of all the powers acting on the Body -
- II. Of the Anatomy of the Body -
- III. Of the Physiology, or a knowledge of the Laws by which both the general and particular Functions of the system are performed.
- IV. Of the Pathology, or an acquaintance with the diseased functions.
- V. A knowledge of the manner by which the disease is to be removed..... and
- VI. A Dogmatic plan requires that you know how to find the proper means for doing this, by an acquaintance with the powers..... Which is shortly no thing



nothing else but a knowledge of the Institutions of
Medicine—

341.

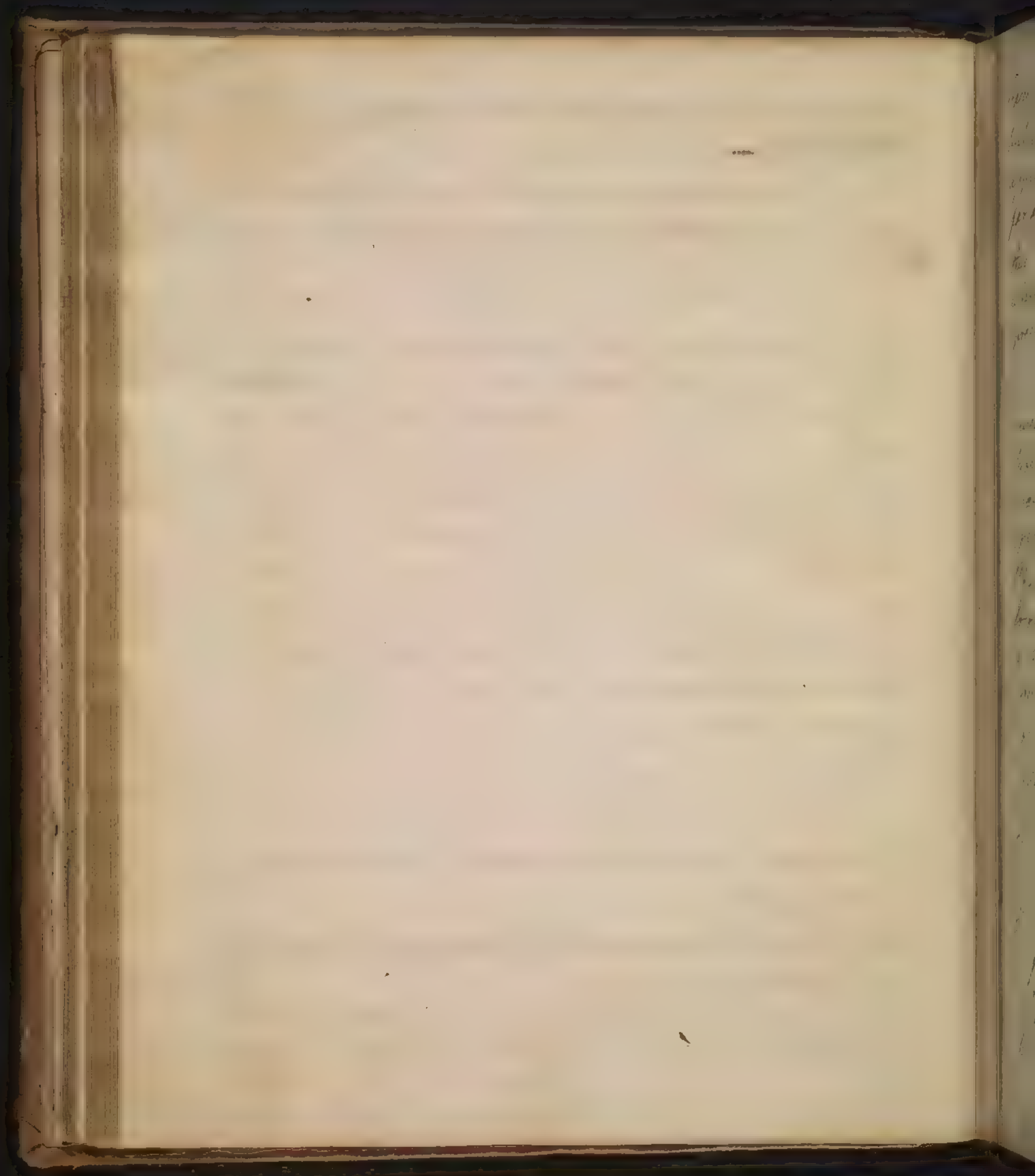
I shall now give an account of my present intended
course, with the Order I shall follow in giving it

And upon a Pathology premised, I shall take
Diseases, not as simple, but Compound, as we commonly
find them..... I shall consider them as they are distinguish-
ed, by a steady Concurrence of symptoms, into Genera, ac-
cording to a Nosologia Methodica, which is a study
I would engage you in. For this purpose I put in your
hands the *Prima Series* of an attempt to a Nosologia
Methodica... You have there the Genera of Diseases as
they are distinguished by Sauvages, Linnaeus, & Vogel,
who have each given us their systems of a Nosologia
Methodica, and afterwards I have added an attempt to-
wards one of my own—

My Plan is this.

1. I shall take notice of the Concurrence of symptoms belonging
to each Genus.
2. I shall endeavour at the Proximate Cause of
the Genus.

This part of our plan is in a great measure
imperfect, as it is not always in our power to trace
Cases



35.
Cases we can explain the Proximate Causes pretty clearly,
but in others we can only point out the way, without
applying it to every particular - Here we shall trace it as
far as we can to direct us in our method of Cure - Besides
these there will be a few cases (and I hope they will be few),
where I shall be able to make scarce any conjecture, but
proceed on a plan almost purely Empirical -

I shall abstain as much as possible from parti-
cular Opinions, and shall adopt the Dogmatism of Dr
Sydenham only with improvements from our late ad-
vancements in Anatomy and Physiology - I shall give a
species of Dogmatism as yet but little known among
Physicians, but which I conceive will not be refused by any
Empiric.

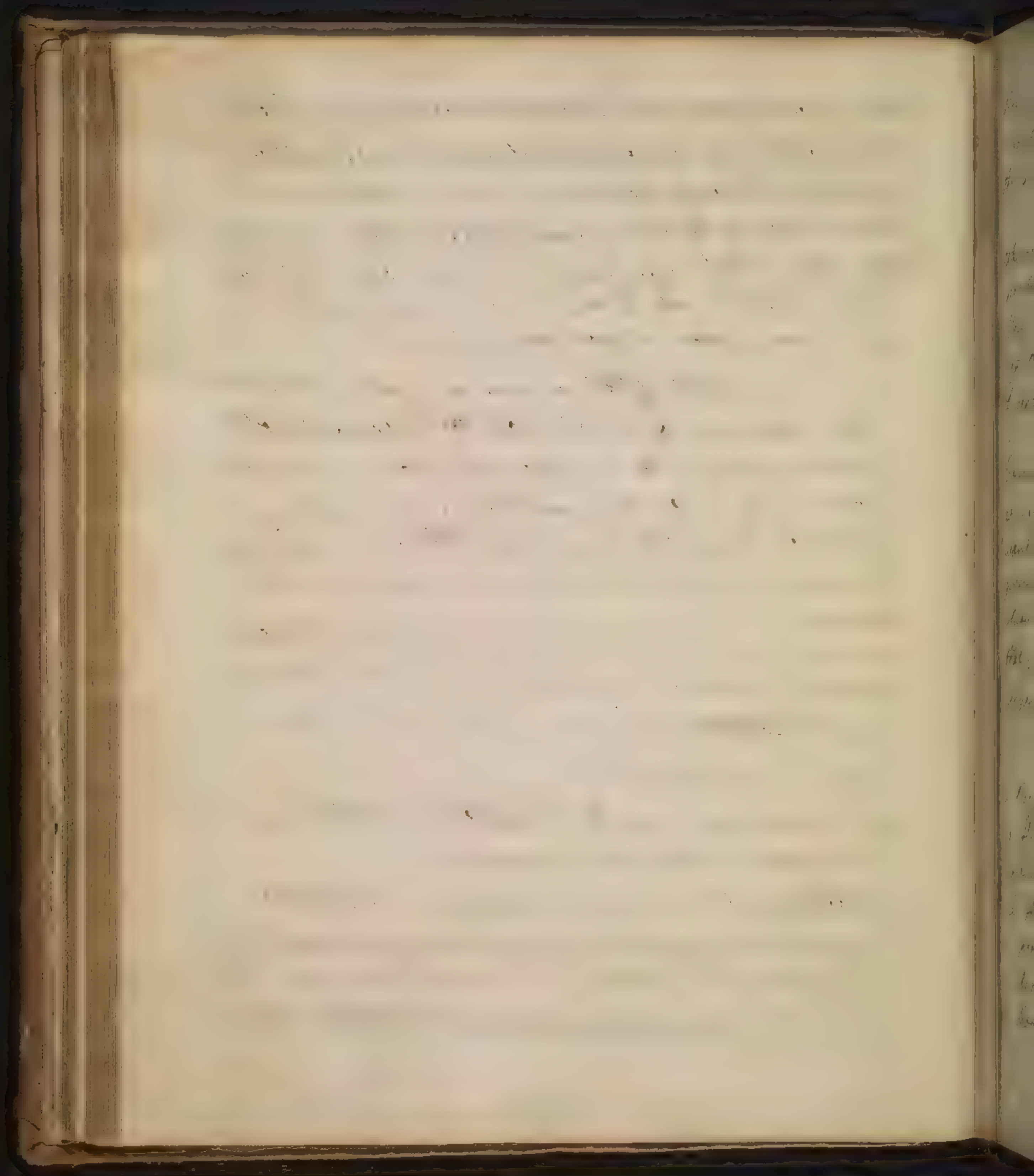
3. From the Proximate Causes and the Phenome-
na of Diseases, I shall endeavour to fix the Character
of the Genus, and also to distinguish it into species,
and Characterize them.

4. I shall give you the Remote Causes, connect-
ing them with the Proximate.

5. Where it is necessary, I shall give a Prognosis
from the proximate Causes, taking care not to sup-
press any fact relating to it, which ever way it may
tend

6. I shall in the last place attempt the Methodus Medendi -

Here



Here I shall endeavour to form Indications on the proximate Causes; but shall always show where it proceeds with the greatest certainty -

Besides this, that nothing may be neglected, I shall take notice of the several methods of Cure that have been practiced, and the remedies that have been used in the disease.

Thus, if you do not like my dogmas, I give you Empiricism; and this is my plan, by which I treat the Genera of all Diseases.

Next as to your method of studying with this Course, I apprehend it is neither necessary nor practicable for you to read much - Nay, I know that Gentlemen, from want of time and other circumstances, cannot possibly at present enter into an extent of reading for the general study of the practice of physic - The chief thing, then, that you have to attend to, is to follow my Lectures as well as you can -

In teaching Science there are two methods by which a Professor may proceed in giving his Lectures

1. He may give the practice of Authors exactly in the common order followed by them, and in so doing may use a Text-Book.
2. He may proceed on his own footing, and make what Improvements he can, either in the matter he gives, or the Arrangement; for which there cannot but be the greatest Room in Physic, which is in a condition so fluctuating.

Yours,



37.

Indeed, I should have but a poor opinion of the genius, or at least of the diligence, of any professor, who did not attempt something of this sort - I am therefore, with all humility, I attempt such a method.

With regard to the reading that might accompany this course, I can hardly direct you to any that will - such Gentlemen as are further advanced might compare the systems of Stahl, Boerhaave and Hoffman, which are now much in vogue, with what I shall deliver; and to this purpose, in the *Genera Morborum* which I have published, I have mentioned the Synonyma of each Genus, with references to these three authors.

For Stahl's system, the book I recommend to you might be Jancker, Lector, or Alberti - But as in this country Jancker is most easily got, and is the one I most commonly find in the hands of Gentlemen, my references are all made to it.

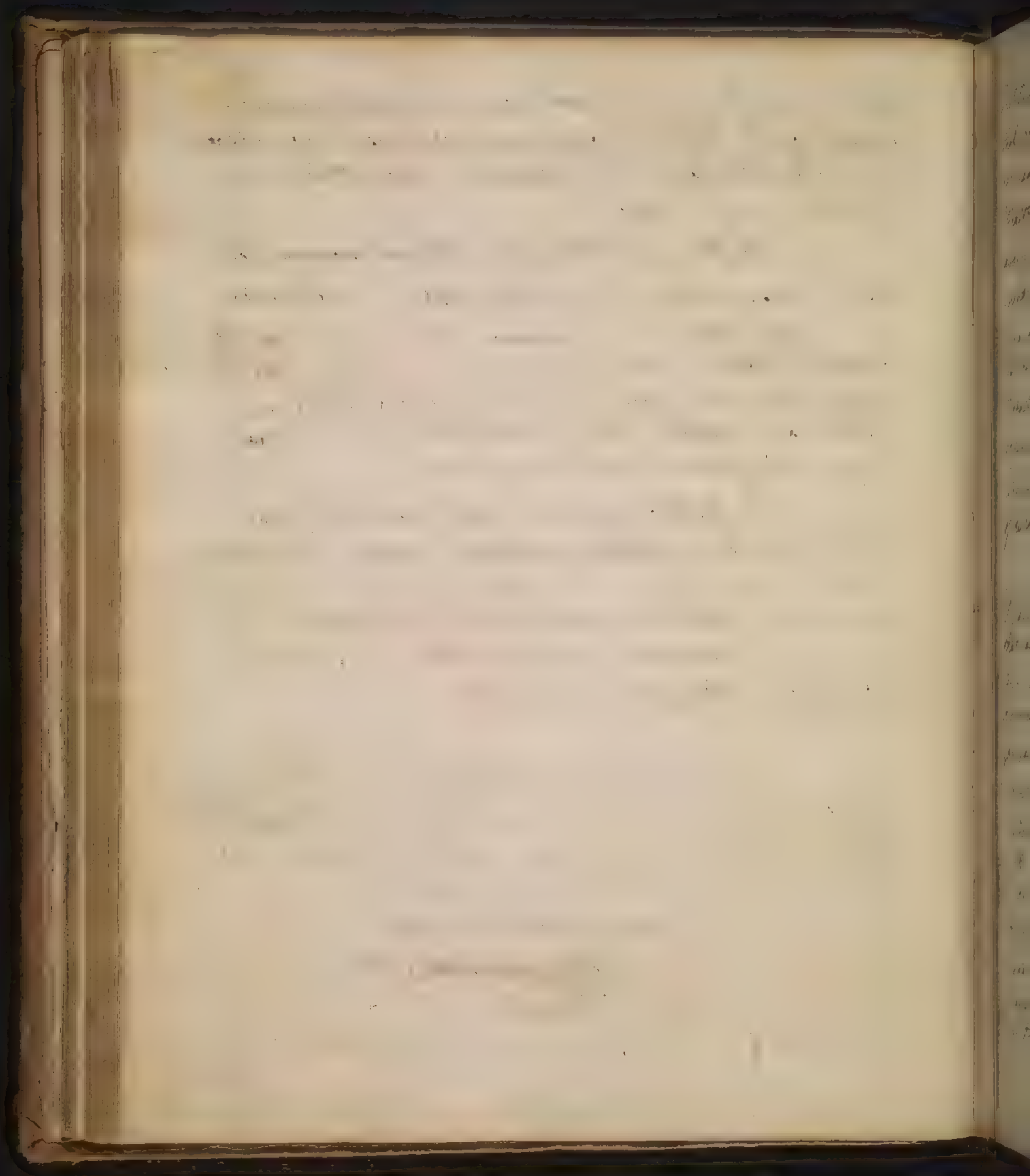
I would have you all read Sydenham, and have the *Natalogia Methodica* in your hands.

I am now to enter on teaching the practice of physic; and here I cannot pretend to aim at Elegance of style, or attempt good Composition in my language - But the chief thing I shall have in view will be precision and perspicuity.

The objects of Practice are two.

1. The art of Preserving Health. and
2. Curing Diseases -

The former () is generally brought under the title of



Institutions; but you will remember that I omitted it when teaching that branch, and for the same reason do not take it in here; because we have no direct means by which we attempt the preservation of Health, but the whole will, on Examination, be found to depend on avoiding the Causes of disease -- and therefore the Hygeina depends entirely on the knowledge of the remote and Predisposing, or Antecedent Causes of Diseases -- I shall therefore only take in here such Causes as require a certain Prophylaxis -- These I shall take notice of in particular -- With regard to others, they require only general Inferences, which may be made afterwards, and be understood only after you have learned the practice, or cure of diseases.

And now upon the whole, after all I have said of the Dogmatic and Imperic plan of studying Physic, Desire that our practice may depend as much as possible on Experience -- Our chief attention must be employed to distinguish between diseases as they differ from each other in their Symptoms; for you all know very well that they are not distinguished sufficiently by their names -- To give an example -- I find a disease which I have never yet seen -- I do not trust to Theory, but look into the Observations delivered by Authors, and there is what disease I can most properly refer it to -- Now I have here a method of cure laid down by the Authors, and have it well attested by good authorities, that certain simple remedies, as bleeding, purging, &c, or such general remedies which we are well acquainted with, have proved successful in the cure -- I try these in the

Case

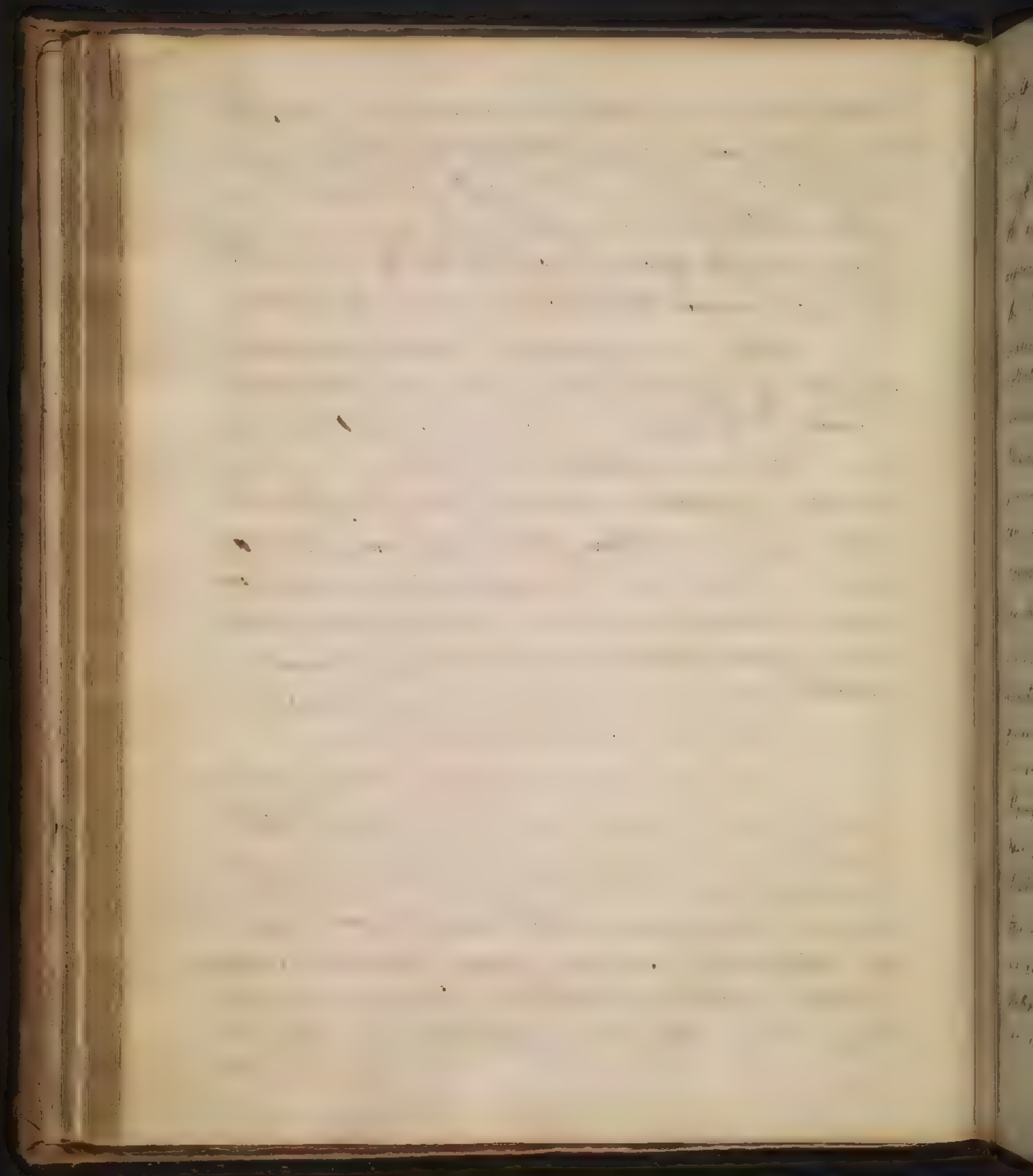


39.

Case that occurs to me, but find they do not answer; therefore, the remedy be good and the Authors deemed faithful, I must not impute to any false relation of the Experience delivered by these Authors, but to an error in myself, who made a wrong Judgement of the disease, and concluded that the Case in hand was improperly referred to the Disorder mentioned by the Authors.

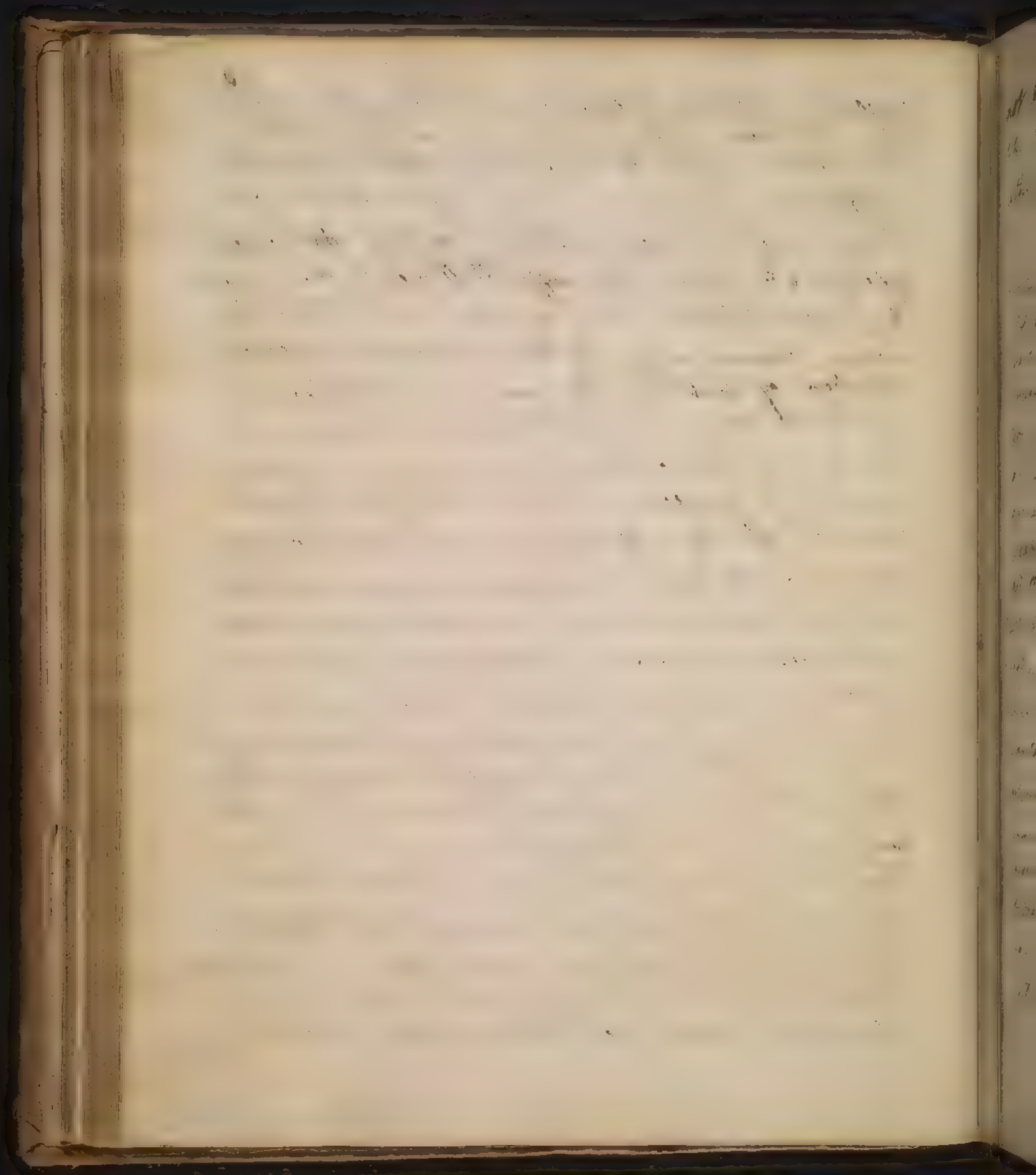
Authors have hitherto given definitions of diseases according to their respective Theories, which should therefore differ according to their different Opinions - According to Sauvages in his *Methodus* has collected no less than ten different definitions of a disease is well known as the Pleurisy. But of late, finding the fallacy of them, they have rather chosen to give an *historia morbi* - But even with this, a physician treating a particular disease, will be at a loss; for he will find many symptoms there mentioned which do not occur in his patient's case; and there may also be many in his patient's case not taken notice of in the history.

No Order or Series of the succession, or combination of the Symptoms, has been ever attempted, altho, you will see in the preface of Sydenham, and through almost all Baglivi, that the defect has been noticed and grievously complained of - We have, therefore, long looked for Pathognomonic, or such essential symptoms as constantly occur, and belong to every one of the Species of this Disease - These, though long wished for, have not yet been



40.

been found - Hoffman, Boerhaave, and other Syftematis in
their works have treated only the Genera of diseases,
and trust the species to Theoretical notions - But this
is insufficient. and (however I may myself be abridged for
the same defect) I declare that it is necessary that we should
depend also to Species - It is difficult to execute this, in which
the Dogmatists have been defective; but to do this the
modern Empirics design by their diligent and accurate
Collection of Facts which they make of - But they have never
answered the intention - In M^r Lieutaud's Synopsis, in the
Example of Hypochondriasis, he gives for his Historia
a number of Symptoms, which never all occur in any one
case; and after this, having given such an account of the
species, he actually gives a Theoretical Cure - And thus,
an Empiric plan, when such an historia morbi is pre-
-mised, can only be given by laying down a number of
undetermined remedies in a List, without any thing to
guide us in applying the use of them to Particulars - But
we are not entirely at the mercy of M^r Lieutaud - Drs
Cringle, Huesham, Cleghorn, Morton, and Ewenham
have given us excellent Observations on particular diseases -
But the misfortune is they have not treated all diseases in
this manner; but many yet remain untouched: therefore
we are at a loss concerning all, excepting those on which these
Authors have touched - For example, Cringle has given us
an excellent account of the mephitis, but it would
not



not have been so, had he not compared it with the like Fossils of other Countries, and such as are described by other Authors -

Some people are disposed to sneer at so great a nicety or accuracy, and to esteem it trifling, or both useless and troublesome to deal with such minuteness and particulars - For example - Many of our contemporary physicians are apt to laugh at the minuteness of Naturalists. You know that at this time 10,000 Plants are known and distinguished by Botanists, but only 300 of them are used in Medicine - Now one of the persons I am speaking of would say "I cannot embarrass myself with all these, but will be contented to know those 300 only" which are used in Medicine; for a knowledge of the rest would be troublesome and useless - He does not consider that it is impossible to say whether or no some advantage may not hereafter accrue from pursuing the subject further - But besides, it is absolutely necessary that some one should study the subject with minuteness, in order to enable us to convey our meaning to Posterity, or to those at a distance; for you know that no one object can be accurately defined, except it be distinguished from all other species, which implies a knowledge of them all.

Now I say that diseases ought to be distinguished

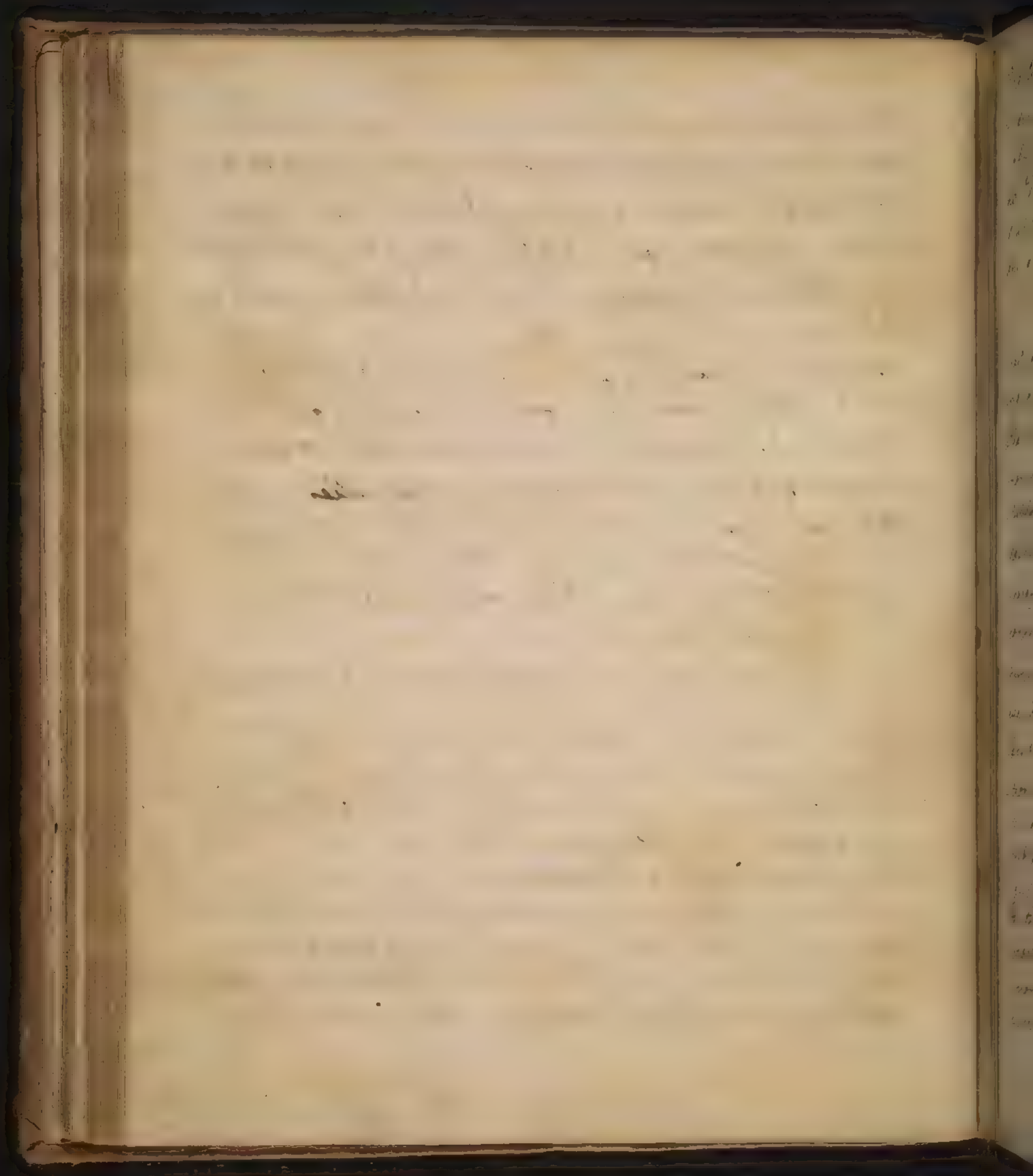


42.

distinguished with greater accuracy and minuteness, than heretofore. The best method then for doing this, is that of the Botanists, viz, to divide or distinguish them into Classes, Orders, Genera, and Species. The usefulness and necessity of this was long ago seen, and the matter proposed by the sagacious Sydenham. It was also hinted at by his contemporary Morton, and since him by others. And also a Scheme was given for the Execution of it by Baglivi. &c. However it was never attempted till about the year 1731, when M. Savanier of Montpellier, undertook the work, with the approbation of Boerhaave, who in a letter to Savanier takes notice of the great difficulty of executing such a work, but at the same time the usefulness of it.

It is not improbable that his first attempts should be extremely imperfect. As some of the first publications of his Scheme under the Title of *Botanologia Methodica* were. — even the third Edition of it, published so lately as the year 1759 (which is the earliest I have seen) is but half a Doodecimo. Hence many of our present practitioners will not hesitate to tell you that every work of this sort is useless, and impossible to execute. But I warn you of this, and loudly pronounce the Utility of such a Study. There are indeed many old practitioners

— new



43.

Practitioners, who are resolved, either openly or in whispers,
to derogate all new improvements in System, and especi-
ally those (of whom we have several among us) who have
no Idea of system, even with regard to natural History -
But the judgement of such as they ought to be at aside,
and altogether disregarded, as having no weight.

To those whom I have already mentioned, I
shall owe one more authority only for the propriety of compil-
ing a system, or *Notologia methodica*... i.e. Gaubius (see
what he says of it in his Chapter "De Ordinandiis
morborum Differentiis"). However I would not abso-
lutely maintain the *Propria, Necessaria, et semper
eadem Symptomata* as he does; for the differences of tem-
peraments, climates, and other circumstances must make
considerable Variety - He concludes in par. 240, and declares
himself of an Opinion quite Opposite to that of the persons
we have just been mentioning - He is here very confi-
dent as to the propriety and necessity of the execu-
tion of such a scheme - This a little particular as to the
Curiosity of ascertaining the names of diseases, and says that
such a work will go further than this, and serve to distin-
guish Diseases in their nature and Cure - With regard
to the old Problem, in the words of Dr Vitae "Data
"morbo Invenire Curationem" I am of Dr Sydenham's Opini-
on, that if we knew the disease, we shall know the
Cure - Having, then, supported my scheme with such an
an



authority as Gaubius, I proceed to my subject.

I have here published for you what may be called the *Principles* of a *Nosologia Methodica*. Mr. Savanar has the honor to have been the first who ever attempted a work of this sort, though some deny it him - since his first Publication he has always in his succeeding Editions made very great Improvements in his System - After several Editions of his general Scheme in his *Pathologia methodica*, he at last, in 1763, published his *Nosologia methodica, sive Morborum Classis Ill.* in five Volumes Oct.^{vo} - Since which he has published another Edition of it, with considerable Improvements (which is the last), printed at Amsterdam 1768 in two Volumes Quarto - This is by much the most perfect, and is undoubtedly a very valuable Book - It is in this last Edition you must consult and consult on occasion, if you please

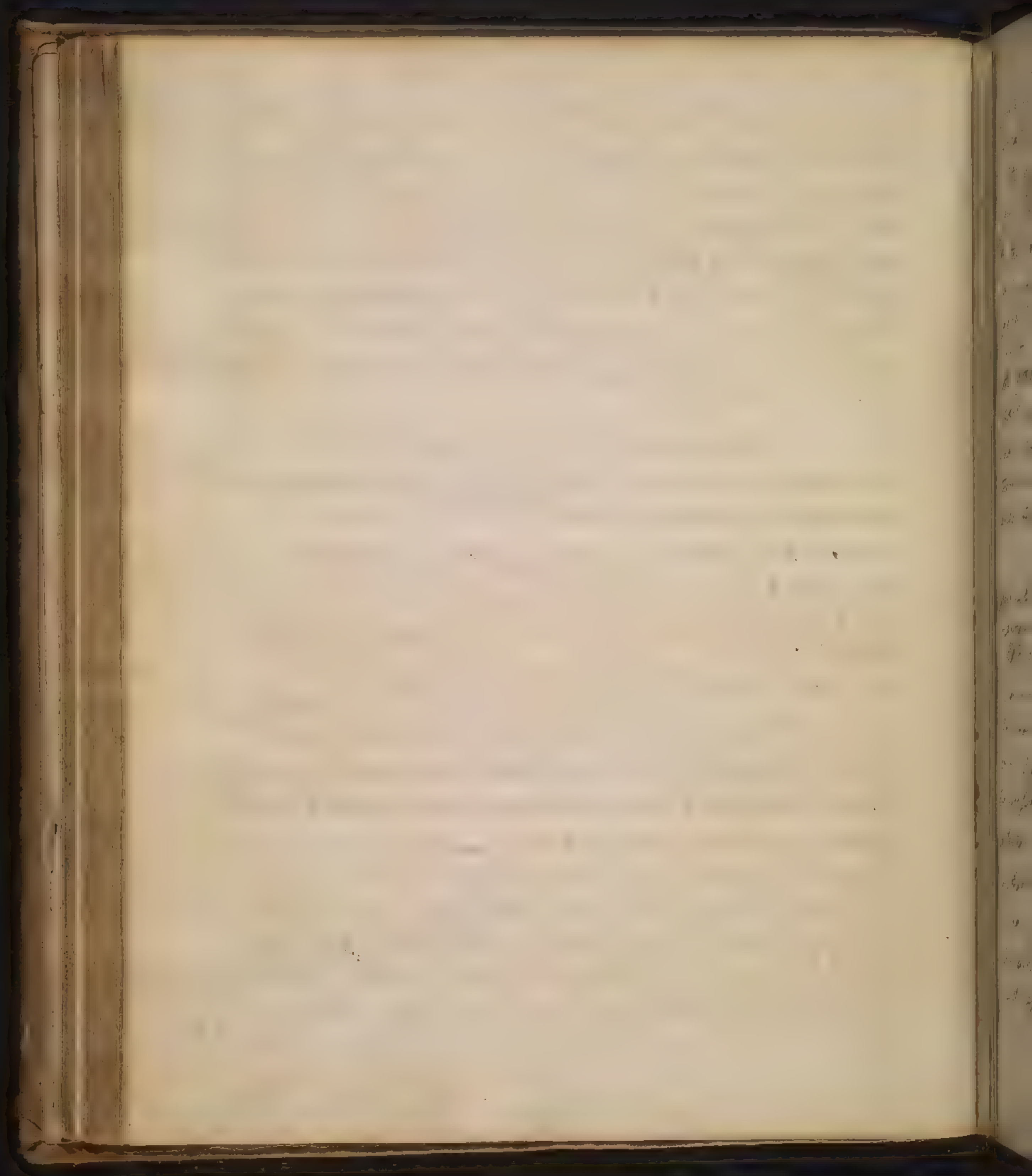
Within these ten years two other Authors have made attempts of this kind - The Accurate Linnæus, so famous for his Skill in Natural history, has given us his System. And also M. Vogeliius of Göttingen, has published a *Genera Morborum*. However, as these last are scarce, and not easily got in this place, and besides would be too bulky and inconvenient for you to bring to this place, I have published along with my own, these three Systems, I trust you may have an easy view of, and may readily compare together - Now you have all the Systems of this kind that have been Published -

Yesterday we gave a long preface to the business



business of our Course. - I was desirous to inculcate that no-
 thing was more necessary than an accurate Distinction of dis-
 eases; and we have by no means as yet obtained this, so as
 that it might give us a proper and steady practice. - The neces-
 sity of such a Nosologic System, has been long seen by the
 good and wise. - But the Dogmatic Systematics failed in
 it, and the Empirics have not filled up the defect. - The reason
 it has not been executed is, that we have never taken the right
 method of doing it.

It appears that the best method is that which
 the Botanists follow in distinguishing the numerous ob-
 jects of their Science; for, according to the maxims the
 Logicians have delivered, nothing can be accurately defined
 but by its Genus and Species. - However, I know that
 many practitioners are disposed to declare against every
 attempt of this kind in system. - But in Opposition to
 this I gave you great authorities, whose opinions were
 highly in favour of the Propriety of such an undertaking,
 especially Dr Gaubius, who has a very clear Idea of the
 nature and utility of it. - I would therefore have you careful-
 ly read the whole of what he says on the subject, as quoted
 yesterday; for every sentence he has delivered on it has some
 particular meaning in it. - I told you what progress
 this work has made within these few years in the
 hands of Mr Savages only. - I also told you that
 Linnæus and Vogel had each given a Genera Morbo-
 rum. - Now all these, for convenience sake, I have put
 - up



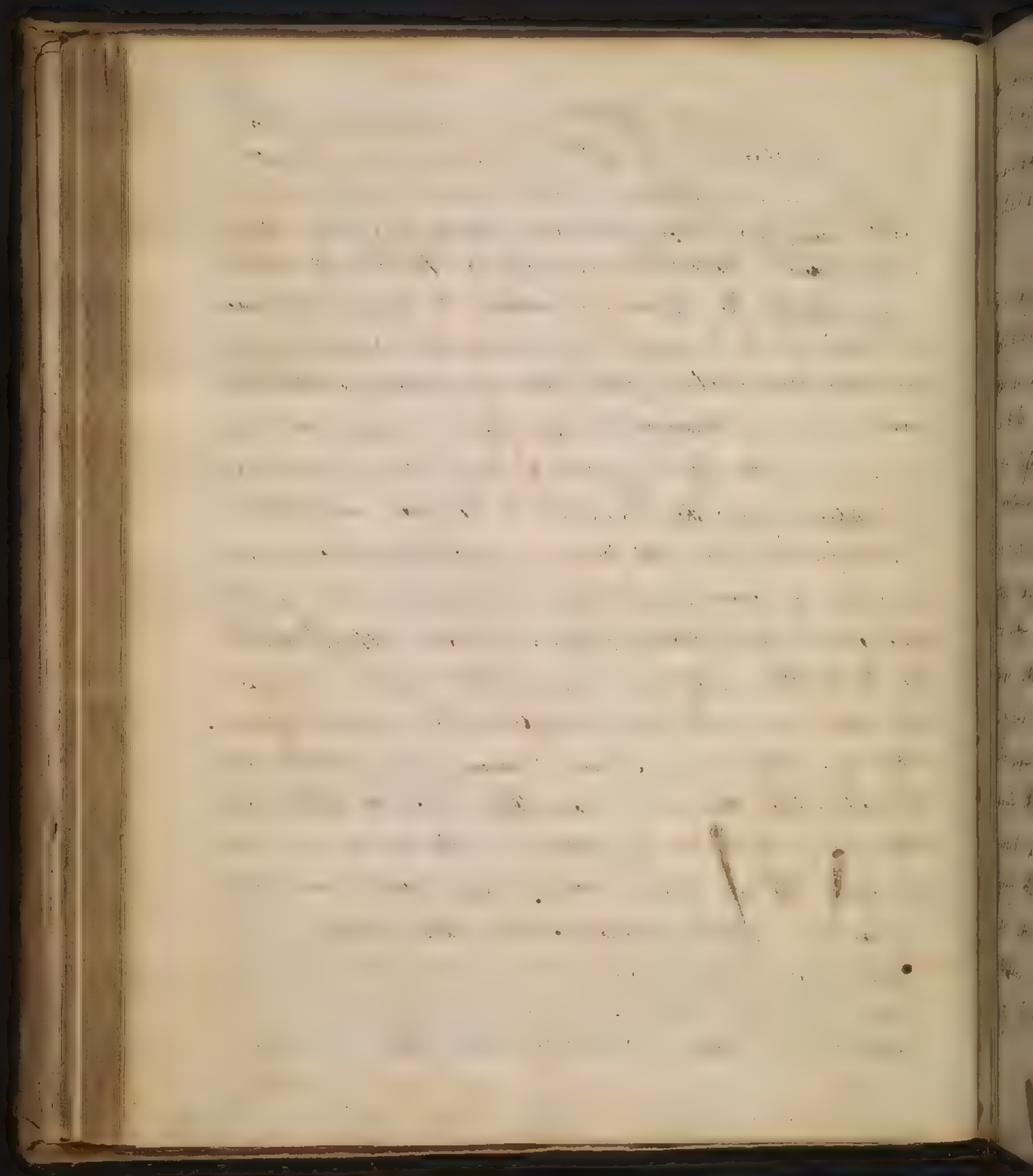
published together, and altho' they are even one of them of great value, yet in my present situation I am under a necessity of finding fault with them - Therefore, as an Epology, Yesterday gave you the Opinion of Dr Boerhaave as to the difficulty of executing a work of this kind - And indeed it is not possible that it could be brought to any degree of perfection in so - Therefore I have given you also a Synopsis of my own, in which I have endeavoured to improve on the others - It was a long time before I would resolve to hazard such an attempt in print, and even now, from the short time which was allowed me to prepare it, I am afraid there will be many Errors in it, more than I shall be able to account for -

Having now acquainted you with what the Text I have put into your hands consists of, I must next say something of the manner of using it - And first I must say something of Method in general, which indeed will be a digression, or what I would a bombastion, but it is absolutely in our present situation - And now, once for all, I make an Apology for this, and other such Digressions - I am certain that what I am going to say will be useful to many of you, or those especially who have paid any attention to Botany, or any part of Natural, will know very well what method is already, but as I am here situated I consider myself as a Sea Officer, who has the Command of a Convoy, and thinks it his duty to wait for the slowest sailer in the Fleet - This, then, will apologize for the present Digression -



47.

I say that Method is a natural Operation of the mind, and one that it is naturally determined to enter upon. Suppose a man of sense and Reflection (who had never seen the Objects of this world before) dropped from the Clouds into the park, where three or four hundred Fallow Deer are grazing. Pleased with their various attitudes, &c, he directs his attention to them; and altho' their first appearance to be a great Variety among them, he at last, on more accurate Examination, finds them very uniform, and that the same form runs through the whole flock. Suppose afterwards he sees in another place a flock of Sheep - here he finds a manifest difference from the Deer which he had before contemplated; and takes notice also that the same uniformity of shape runs through the whole of that Flock. Next he gets into a Forest and comes across a flock of stags or red deer. At first sight he thinks them nothing unusual, but that they are the same he had before seen in the park, but afterwards he finds a difference. They stare wildly at him, and he is in danger of being attacked, &c. In short he finds them some what different from the others, though they bear a considerable resemblance. After this he sees what are called African Sheep - now then from reflecting on what he has seen, and the Comparisons he makes of them, he establishes two Genera out of them, each containing two species - and this is the way he gets the Idea of a Genus comprehending its species. A species is that which admits of a division

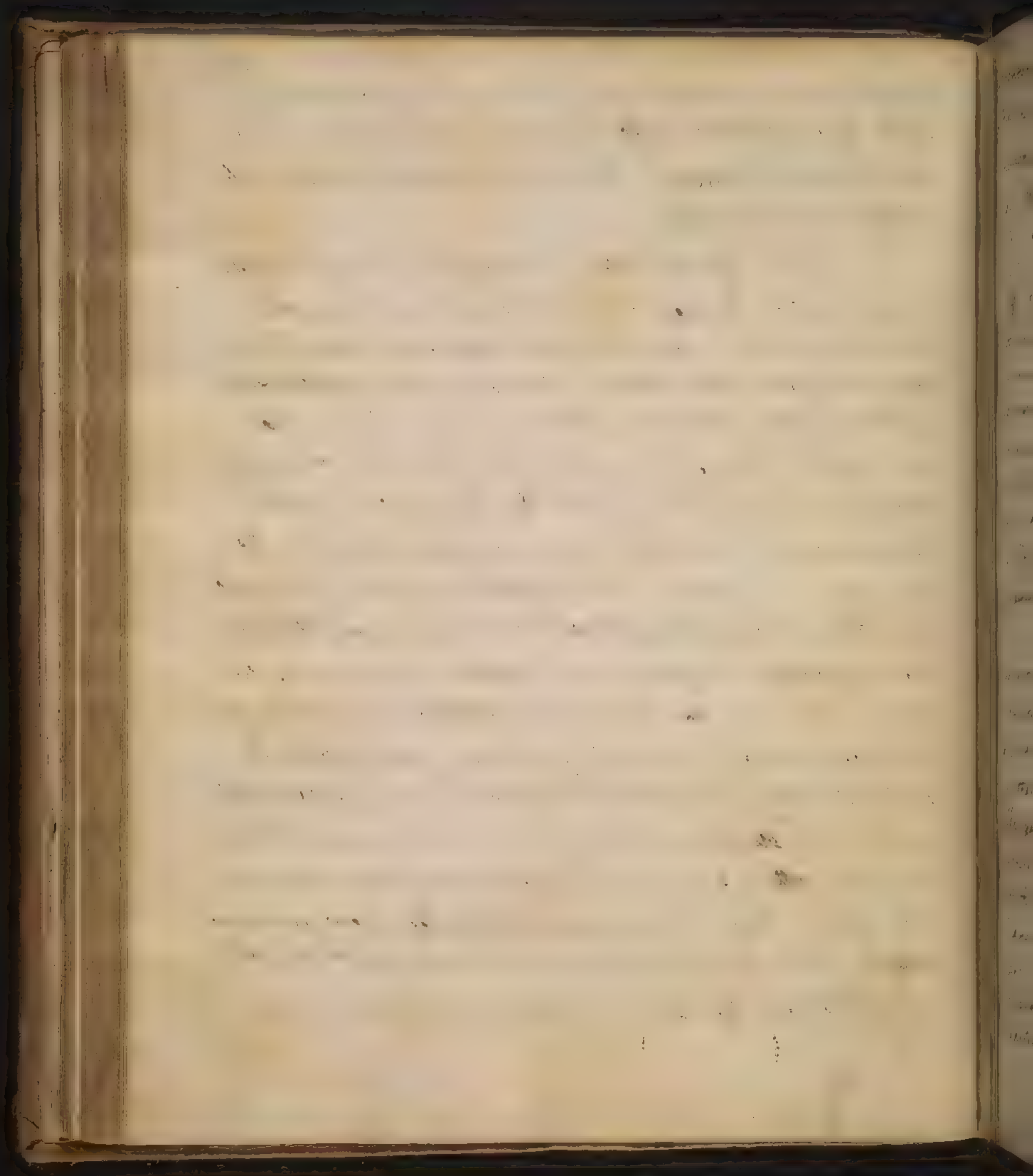


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division into individuals only: and a Genus is that which ad-
mits of a subdivision before it reaches Individuals — This
man acquires as many Ideas as he sees objects — Thus we ab-
stract and Generally —

In the next place I suppose our Stranger is brought
to a place where he sees a dog — Here he observes no horns, the
feet divided into five toes, and that it differs also from all he
had seen before in the teeth &c. — In short he finds that the dog
is to be distinguished from both Genera and Species he had
seen before, and can be united with them under an higher
apartment only — Now, to make the thing plain, suppose
he next sees a Goat, which he finds so resembles the dog, that
they may be united and ranked together, till he distinguish
ed from all the rest — afterwards he sees a Cat, and then a
Lion, which too he finds to unite together in a Genus, as the
Dog and Goat, and that all these four together are distinguish-
ed from those four which he first saw — Accordingly he
unites the dog and Cat kind together into a higher apart-
ment, and distinguishes them by the same general Mark
from the others, i.e., the red and fallow Deer, the Common
and African sheep — Thus naturalists of them have given us
Orders — The Dog and cat kind they unite under the title
of FERO, and the Deer and Sheep under Pecora — Next

The



stranger we are speaking of, see birds flying over his head -
 Then he readily distinguishes from the whole body of Quadra-
 -nudes - And lastly makes a distinction between animals
 and the trees and other vegetables growing around him -
 This analytic method, then, is that in which we natu-
 rally proceed in attempting a system - We proceed no fur-
 -ther than distinguishing individuals which constitute
 the species - The next higher apartment is the Genus prop-
 -rium, comprehending the species, & which Systematists
 have given the name of Genus simply - The next, or the ge-
 -nus which comprehends them, they call an Order - The
 next, which comprehends the Orders, is called a Class:
 and lastly the Classes are united together to constitute
 a Kingdom - This, then, is the whole of method ex-
 -plained.

You would imagine that the higher apart-
 -ments would be easily distinguished; but we cannot with-
 -out difficulty say what number of division they may
 admit of - The last end, or what we have in view in
 method, is to distinguish accurately the Genus and species.
 We generally distinguish the species by the name of the
 genus and the specific differences - Thus in the Character
 of the species of the fallow Deer, naturalists first take the
 name of the Genus (Cervus) supposing it already defined;
 and then recount the marks by which it is distinguish-
 -ed from all other species - They do not admit in the Cha-
 -racter of a species even the name of the Order, Class, &c.
 be



because there are already supposed to be plainly and accurately distinguished in the mind - But a species is never clearly and accurately distinguished and defined, unless the Class, Order, and Genus are all taken in - and next is mentioned the distinction from the other species -

This applied to Animals is called a methodical division... and to plants a Methodical Nomenclature - method has been very useful to us in ascertaining the various productions of Nature - To illustrate which I shall give an example - at present upwards of 10,000 different plants are known to the botanists - Now suppose a plant I am unacquainted with is presented to me, and I desire to find out what it is - Without assistance from method I could come at the knowledge of it only by comparing it with the descriptions that have been of each of the Ten thousand; but this would be an immense Labour which no one would choose to undertake. Whereas by the assistance of method I can find it out much easier -

First, supposing the whole 10,000 Plants are divided into 20 classes, by ascertaining the Class to which the plant in hand belongs, I at once reduce my enquiry to about 500 only - Next supposing this Class to be divided into 5 orders, by ascertaining the Order I reduce the number to about 100 - And lastly by carrying on



on my investigation of the Genus, and discovering^{59.}
it; I have now, perhaps, only ten species to search
among for my Plant; and by examining the dis-
criptions or Specific differences of them, I presently
see what it is. But if it is what Authors call
a non-different, I soon find this also; and am the bet-
ter, as I can now add a Species to the plants already known,
and also distinguish it from them.

But in Quadrupeds there is not so great a
variety as in plants, and therefore there is not so great
a necessity for method in distinguishing them; for there
are not as yet discovered in the whole face of the Earth
above 200 Species of Quadrupeds. Mr Buffon therefore
rails at the introduction of method, and says that Linnaeus
work, by which he has got much reputation, is altogether
trifling, useless, and Pedantic; for the human mind could
easily contain so small a number of Species without the
assistance of method. But I insist that even here method
is useful, so far as it makes us more accurate in our distinc-
tions - according we have at present a dispute prevailing,
whether the Elk is a ruminating animal, and whether
"Caruncula Gutturalis" is a mark by which it may be dis-
tinguished; which would never have been a dispute, nor would
our distinctions have been so accurate, if we had never
Intro



Introduced method in this part of Natural History ^{52.} -
I shall here add one more Observation on this subject. Many
persons make a subtle objection to method, and say that
it can apply to animals and Vegetables only; or with of the
productions of Nature as live and propagate their Species;
But that it must not be applied to Minerals. This Objection
-tion, or rather Objection, is of too subtle a nature to be
disputed here, as it would require a more thorough know-
ledge of natural bodies than at present I can suppose you
to have; therefore, I shall only say concerning it, that our
distinctions even of Minerals have been much more accurate
since method was introduced to assist us in distinguishing them.

In like manner, with regard to diseases, I will
not speak so confidently of their uniformity and steadiness
as Dr Gaubius does, yet I will assert, that method has been
highly useful in making our distinctions of them more
accurate and precise -

For this purpose, then, I have here given you
four different methods, which are proposed with other views -
I dare say, that at present, then, to many of you, will be
as unthought and unintelligible as the Figures in Euclid would
be to a Girl. But though they may appear so at present
do not be afraid; for by diligent perusal and strict attention,
we shall certainly be able to understand them at last -

If Gentlemen are in too great an hurry, and proceed
faster than they ought, they will probably gain considerable
Error



53.
Error: But as we proceed gradually from one thing to another, there is
no danger but that in due time we shall come to understand both
the nature and utility of a system in this Place -

Having given you a general Idea of Method, I
am now to proceed to the Consideration of Nomenclature in par-
ticular - For this purpose I have given you four Systems
of Methodical Nomenclature, each of which I would have you con-
sider separately by itself - I would have you first consider the
Classes of each System separately - Then the Orders - and after-
wards compare the four together, i.e. the Classes of one sys-
tem to the Classes of the other; and the Orders to the Orders -

I have in the fourth part, which is my own
System, given you the Synonymies of all the other three,
annexed to the Terms which I have used - Where you see no
synonymies and, you are to understand that there are no terms
to be found in any of the other Systems which answer to the
one I have used; and that neither of the three authors use
any term: a synonymous sense, but that each member
of our System is altogether new and introduced by myself.
Thus in the second Class, Nerves, there are no synon-
-ymies annexed, because neither of these authors have used any
term of the same signification - I indeed have given as a
synonyme the term Nervini, which occurs in Linnæus;
Or I might have used it instead of the one I have chosen,
but



but I did not for fear of confounding my meaning with ^{Edi.} the Common Idea of Nervous fevers. In most other places, however, of our system there are Synonymies. Thus in the orders synonimous to Comata we have the Term *Soporosi* of Linnaeus, &c. In the next place I give you the Synonymies of Stahl, Boerhaave and Hoffman, with references to their works, as I told you that then three systems of phisic were that generally prevailed in Europe at present: And I imagine that will be of great service to you, as it will direct you to the chief reading on the several subjects that will be of use to you.

I shall make one more remark on this part of the work, with a view to correct an error that has crept through the whole of it, as to the references made to *Linnaeus's tables*. I find, since the work has been printed off, that in these references there is generally an error as to the number by which they are made. It was owing to there being two Editions of the Book, one having a single table more than the other, so that for the most there is an error in the references of one number or much.

In the Index I have given you all the names of the Genera that are used in either of the systems, with the references made by the number of the Genus to the Systems of Lavalles, Linnaeus, Vogelius, and my own, which is the fourth part of the Work.

In



In numbering the Genera, everyone except that of Savages, begins with one, and that at the first Genus of the first Class, and proceeds on in the number to the end, so as to contain the whole of the Genera in one number. But Savages begins his number anew at the beginning of every Class, so that he includes together the genera of one only. But for sake of convenience in my references, I have included all his genera in one number (as is done in the other systems), and have placed this on the Margin in the small Arabic Character opposite to his own number of the genera of the particular Class, which is expressed in the Roman numeral Character. By this Index you will at once see what place every name of a Genus has in each of the systems.

I now observe you that in using these systems, you are to pay particular Attention to every thing you see in them; for there is not a word expressed that has not a particular meaning. And whenever you see a word left out by one Author, which is mentioned by another, you may be sure that it was because the latter had some particular view in it, which the other had not. And whenever one adds a word that is omitted, he certainly had some intention in doing it. Now it is your business in every case of this kind, to see there is discrepancy in the systems, to find out the reason of it. For Example Savages and Linnaeus have divided the Class of Fevers into Intermitents, Remittents, and Continents. But in
Sogels



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Vogel's system and my own you will find Fevers divided
in to Intermittents and Continueds - Now the Miasmatics
which have been so much taken notice of by authors,
are certainly somewhere in Nature: what then has become
of them and why are they omitted in these two systems?
Vogel will tell you that no such thing really exists as
a purely continued fever, but that they are all intermittents,
and that there is no occasion for multiplying divisions -
and if you look among the Intermittents of the fourth
part you will find them mentioned as synonyms, not
only the Miasmatics, but also the Miasmatics of Sauvages,
and the Exacerbantes of Linnaeus; the reason of which
is that I consider the Miasmatics as Intermittents - To
discuss this matter further would lead us to very intri-
cate and important Pathological Enquiries, which are
not to be entered on here

I must now dismiss the subject with a few
Nosological Remarks.

First, in an attempt to Nosologia we ought to be
certain what are to be taken in as Genera of diseases.
For my part, I think whatever can be properly considered
as disease should be taken in - Several Pathological writers,
as Sydenham, Morton, Hoffman, Pringle, &c. have given
us excellent Characters of certain Diseases, but, as I
told you, they have touched a few particulars only; there
as



Whereas we want the same light thrown upon all diseases, & enable us to form a system that will comprehend the whole, and give distinctly Characters of them all - To give an Example - The Naturalists in the division of Quadrupeds, have given an Order of Pecora - Now if we were acquainted with the Animals of Europe only, we might characterize them by their having horns (as was actually once done): But after we became acquainted with the Animals of Africa and Asia, here we find the Camel and the Musk-Deer, which have no horns, but agree in all other respects with the Pecora of Europe, and are therefore without any scruple included in the order amongst them - Hence, then, it appears that we cannot give the Character of particulars with accuracy, till we are acquainted with the whole - and therefore we ought to ascertain what are to be taken into our system before we proceed - In a Nosological system none but what are proper diseases should be taken in - And it will be found that almost all Boerhaave's numerous class of Deformities, are not diseases properly meaning; for he includes here every deviation from the most exact standard of perfection in the human body - But most of these, though they are Imperfections, and give some slight Inconvenience, are not to be recorded as diseases; or, at least, if they are so they are of a very slight kind, and such as may very well be omitted from a system - Sauvages and Linnaeus have also



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also, as well as Fogel, in like manner for the definition
of Disease, and gone into the same error.

Moreover, all three of them have needlessly mul-
tiplied the number of genera, in reckoning as diseases what
ought only to be considered as symptoms. Indeed each of their
Systems is more properly a perfect Symptomatology than a
System of Nosologia. For example, the Purpura, Rigor, and
50 or 100 more of their Genera never occur as diseases by them-
selves, but are only symptoms, belonging to other diseases, as
fevers, &c. - Therefore all such should be left out of the
number of Genera.

Whenever it is necessary to give a Discussion con-
cerning any point that admits of doubt, such as to ascertain
whether a Genus is to be omitted or received in our system,
I have introduced a note to that purpose, to signify that such a
discussion is necessary. Thus in Page 257. with regard to the Hætic,
I have said "Effectum omnem symptomaticum censumus,"
by which I mean that I do not look upon the Hætic as a
proper Genus, and shall give a discussion with regard to it here-
after. The same thing you will see in Page 270. of the Pur-
pura of Sauvages and Petechiæ of Linnaeus, at the end of the
Erythematæ... also of the Hemorrhagiæ, Page 272; and
likewise near the end of 275, 276, at the end of 283, and lastly
in Page 286. Here however it is not with some difference, I
say "Vel species vel omnino symptomatica est, Meteoris-
mus, Sauvages -"

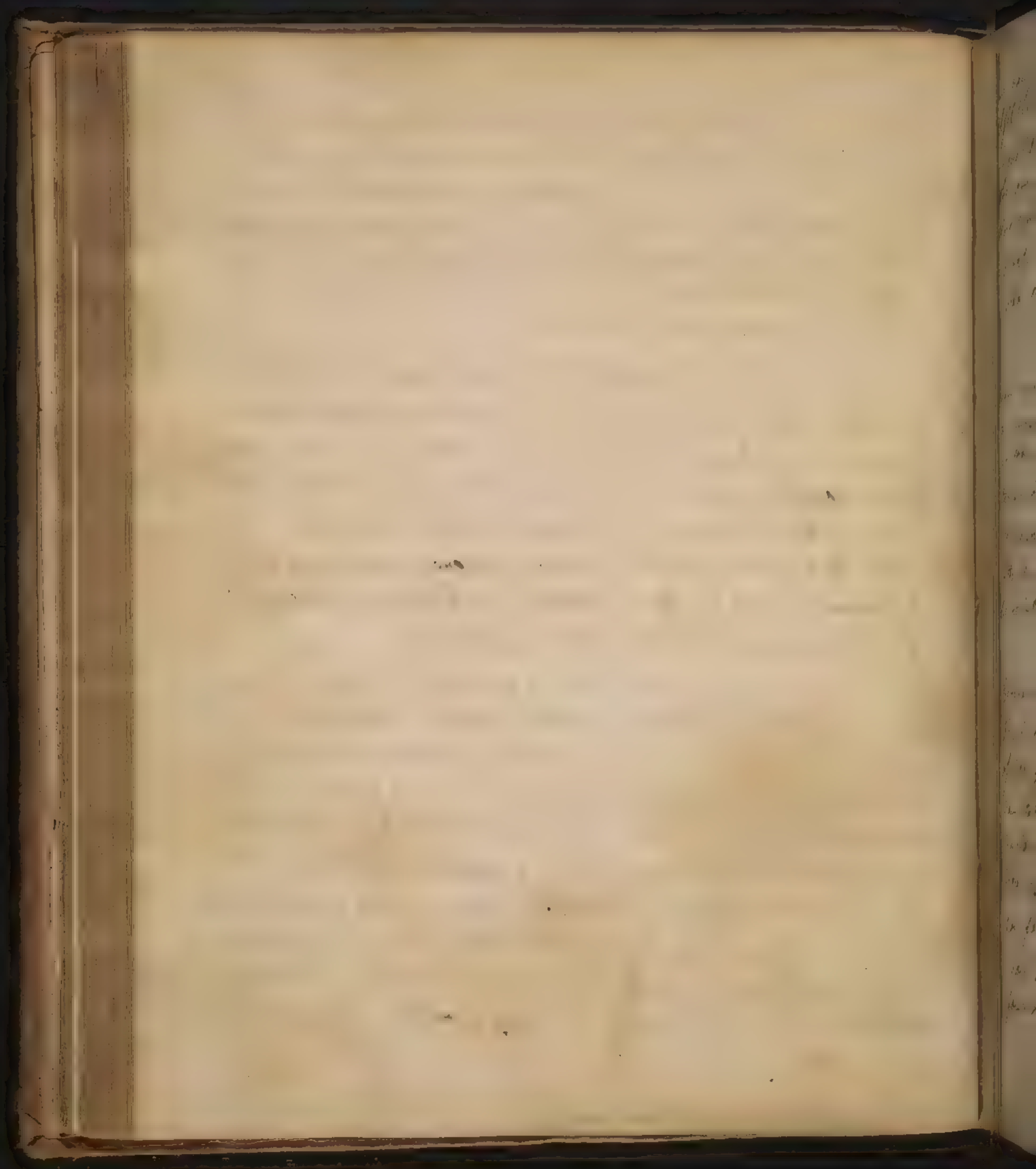
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I shall hereafter discuss these Pathological Questions fully, and give the reason why these which I have mentioned are not admitted as genera. I must observe too that after two very remarkable genera, the Dyspepsia and Hypochondriasis, Page 276, I once had resolved to set down a list of a number of symptoms, that are mentioned by others as species, but which I look upon as symptoms of the Disease -

I here go further, and remark that in Nosology even the distinction of genera and species is often a matter of some nicety, & will be discussed here - However on this I have often hazarded my Opinion - Thus in Page 253. See the Synonymis of the Tertiana - Here many which Savages and the rest have made separate genera, I reckon species of the Tertiana - such as the Duplicana of Linnaeus Tretophyza of Savages, Tertiana duplex of Vogel. &c

I go on to remark what I consider as other faults of these authors in reckoning their genera - There are some diseases that consist of a series of circumstances, one state being the consequence of another, and never occurring unless this other has preceded, as in the case of Inflammation and abscess - then one succeeds the other, and it is a question whether they are to be considered as separate genera - In a practical course, such as ours, we are under the necessity of considering them together; for in the way of treating them they cannot be separated - But see, in Page 259 of the Synonymis, how we



we have managed them - Here I say "Phlegmones sequela^{60.} et
Apostema," reckoning these Cases under the name of
Sequela or consequences of certain diseases - You will see
the same thing in Peripneumonia and Pleuritis Page 261 -
And besides this, in 278. I have said under Haemoptysis "Hae-
moptysis sequela Phthisis," to which I have given no other
place than this in my system -

These Authors have also reckoned several genera that
have never been properly distinguished, but are only theoretical
or imaginary - Of which there are many instances to be found
in their systems; and Vogel in his Panacea (Genus 61)
though he can give no Character, but is obliged to say "Not
deficient," yet admits it as a Genus: and there are many
others to be found in every one of these three systems, that can
be no better distinguished -

Thus in my system I have given so many fewer
Genera than either of the other; for you will find that
Vogel has given 560, and Sauvages and Linnaeus upwards
of 300 genera; whereas in all I have but 132, and yet
have taken in almost all that they do, either synonyms or
sequela, &c. - and in this we see a very essential use of our
Index, viz. to show which of their genera I have received, and
how far I have placed them in the 4th part: in short, to
show at once under the name of each Genus, how the
four different systems stand with respect to one another -

I am



I am sorry I detain you from the business of more immediate use and application, I mean the consideration of particular diseases - I have thought it proper to engage you in the study of Nosology; and want especially to inculcate that all questions that occur in the methodical Nosology are actually pathological questions of considerable importance - and therefore the most part would not be made questions, if it were not with a view to method - such were several of the inquiries we hinted at yesterday, as

I. What among fevers were to be admitted as Genera, and what to be reckoned only as symptoms of them.

II. What in many cases are to be enumerated as symptoms, and what may be looked upon to constitute a Species.

III. What are to be reckoned as Genera, what as species. Also what distinction is to be made between the different stages of diseases. &c. - And in the next place, in what manner the Characters of diseases are to be made out in a system of methodical Nosology - Here, I say, no theory is to be admitted - and a work of that sort is valuable, because it consists of nothing but a collection of medical facts. Now see Sauvages' order of Phymata, Page 4th, where he admits into the Character the term humores; and also his Excrecutia, Page 6th, in Characterizing which he says "a solidis adhaerent". This, I say, is theory and consequently not to be admitted; for he has here taken into the Character the internal state of the parts, and even gone so far as to ascertain the state of the Vessels there - Also Linnaeus is guilty of the same fault, in page



146 - Here he calls Schirrhous; Glandula indurata; and Anchylosis (Gen. 286.) Tumor Geniculorum, &c synovia - Now both these are even doubtful pieces of Theory, and at any rate ought by no means to be admitted in Morology - See like-wise page 444. Here you will observe his theory is also wrong. For in the Character of Bubo, he says "Glandula conglomerata" and in Anthrax "Glandula substantanea" therefore in this instance he has fallen into a very palpable error - But such Theory, even if just, ought not to be admitted - Also in Page 120. His Character of Agrypnia is very improper, and does not even give an Idea of the affection; for it were not that we understood the Greek term, or the Latin one, pervigilium, which he annexes, I am sure we should not from the Character he gives know what he meant - Further Linnaeus distinction of the Inflammation of the Meninges, and of the Encephalon into his Phrenetis and Spaulismus (i.e. his Phlogistis) is very improper and incorrect, for the same reason, being a distinction in Theory only - For, in page 870 where Vogel unites the two together in his Phrenismus (i.e. the Character) - Here he says that the distinguishing symptoms are very ambiguous; and if so when both are united, the distinguishing Marks will be much more ambiguous when we attempt to make two Genera out of them - Also in his Hepatitis and Splenitis, &c, the Characters are very imperfect; for these cannot be distinguished by saying there is a pain in the right or left hypochondrium - for in very many Cases even this cannot be accurately distinguished - And I have often seen the



the pain judged in one or other of the Hypochondria, and the disease referred to one or other of them, when it was situated in that Colon & therefore it is not altogether reasonable to characterize even by them, much less when he says, "Dolor Uteri, Dolor Renis, &c." specifying the particular viscera.

There are other Cases where our Characters are exceptionable through necessity, viz, Where diseases consist of a series of Circumstances, and we cannot distinguish them by a Character which is constant and runs through the whole disease - As in Intermittent Fevers, where we cannot characterize them till we have seen a repetition of the Fit - In the Exanthemata, where must wait for the Eruption - &c. - Nor altho in the Exanthemata certain Circumstances often give a strong Presumption as to what the disease is & turn out, yet we have not marks so absolutely certain as to enable us to establish their Character in the beginning of the disease. Here, then, we cannot characterize the Genus before we have seen some of the Progress of it - This, however is to be avoided as much as possible - But altho in some cases this is an unavoidable imperfection in our Nomenclature, yet it is not always so where it occurs in these Authors & thus we have among the Characters given by them "Febris malignissima &c." - Where the disease is distinguished only by the violence or fatality of it - Marks which can be used only after the patient is dead - But Linnæus

through

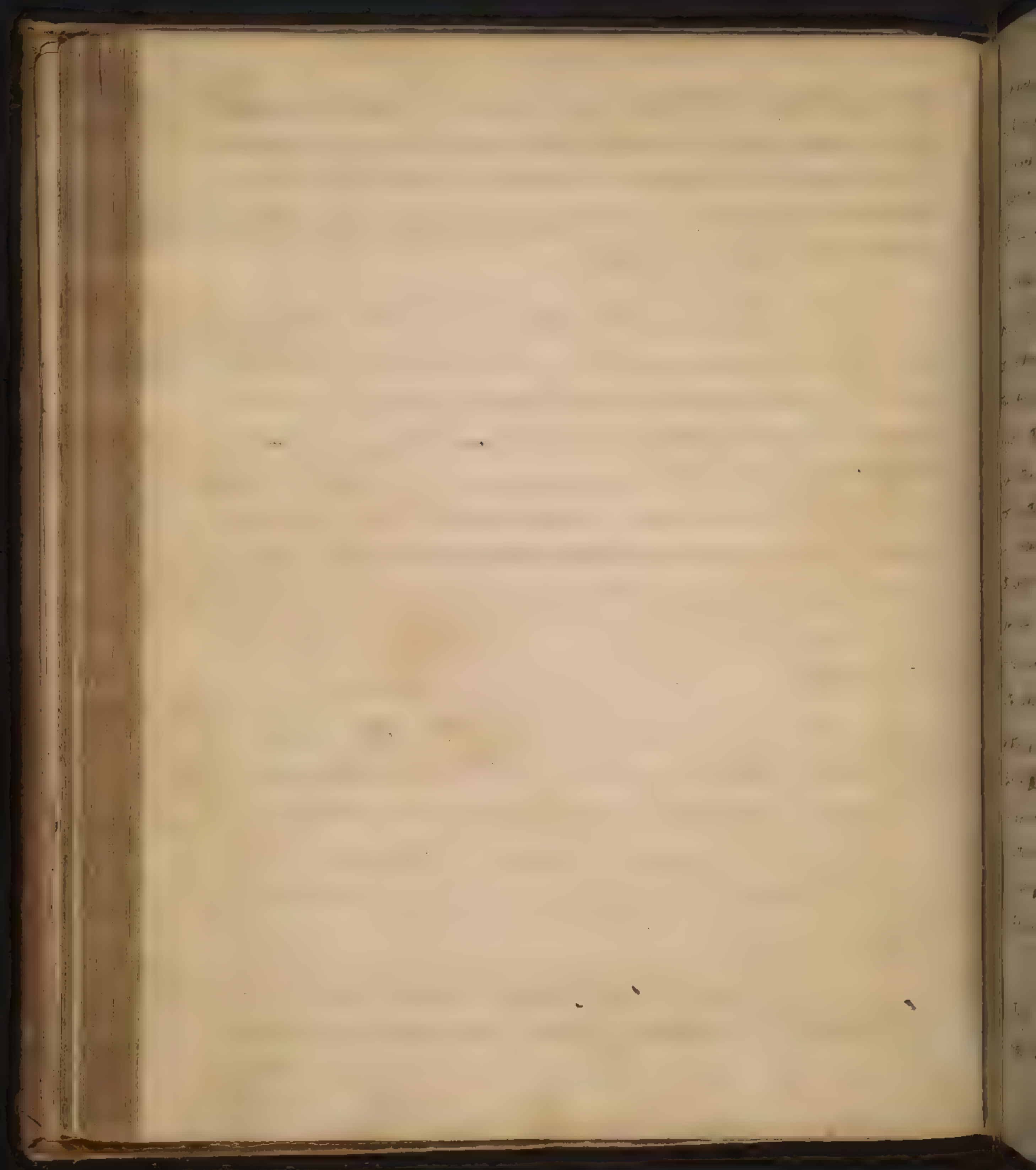


64.

Although almost the whole of his *Flores* (Page 108) has expressly
given downright Distinctions of the sort, which respect only the
Germination of the Vascular: Thus he says "intra Ventrifloram
"Unicam terminanda &c." - Sauvages also has often fallen
into the same error (Page 22).

I say, then, that diseases are to be characterized only
by the Evident external Appearances; and in this we ought to use
such expressions as admit of no Ambiguity - Therefore we object to
Vogels "Voluntas dolorifica" and Linnaeus' Character of the
Contestura (Gen. 238.), as being examples of this - Linnaeus,
however, to avoid in some measure this Ambiguity of Expression,
has by numbers referred to his definitions of his Terms, i.e., the names
of his Genera which he makes use of in Characterizing others.
Thus in his first Genus Morta he refers to his definition of
Phlegmona in Gen. 273. But there is great ambiguity in the
Expressions through out the whole of these three systems -
And, indeed in Nosologia, nothing is more wanting than a proper
Delentis Morbi. Every one acquainted with Botany knows
the great use of Linnaeus' *Philosophia Botanica*, in which he
explains all the Terms, and so gives some precision to the Lan-
guage of the Science.

I go on to observe, that in ascertaining our Gene-
ra, Orders, &c., Natural Affinities between the particulars
belong,



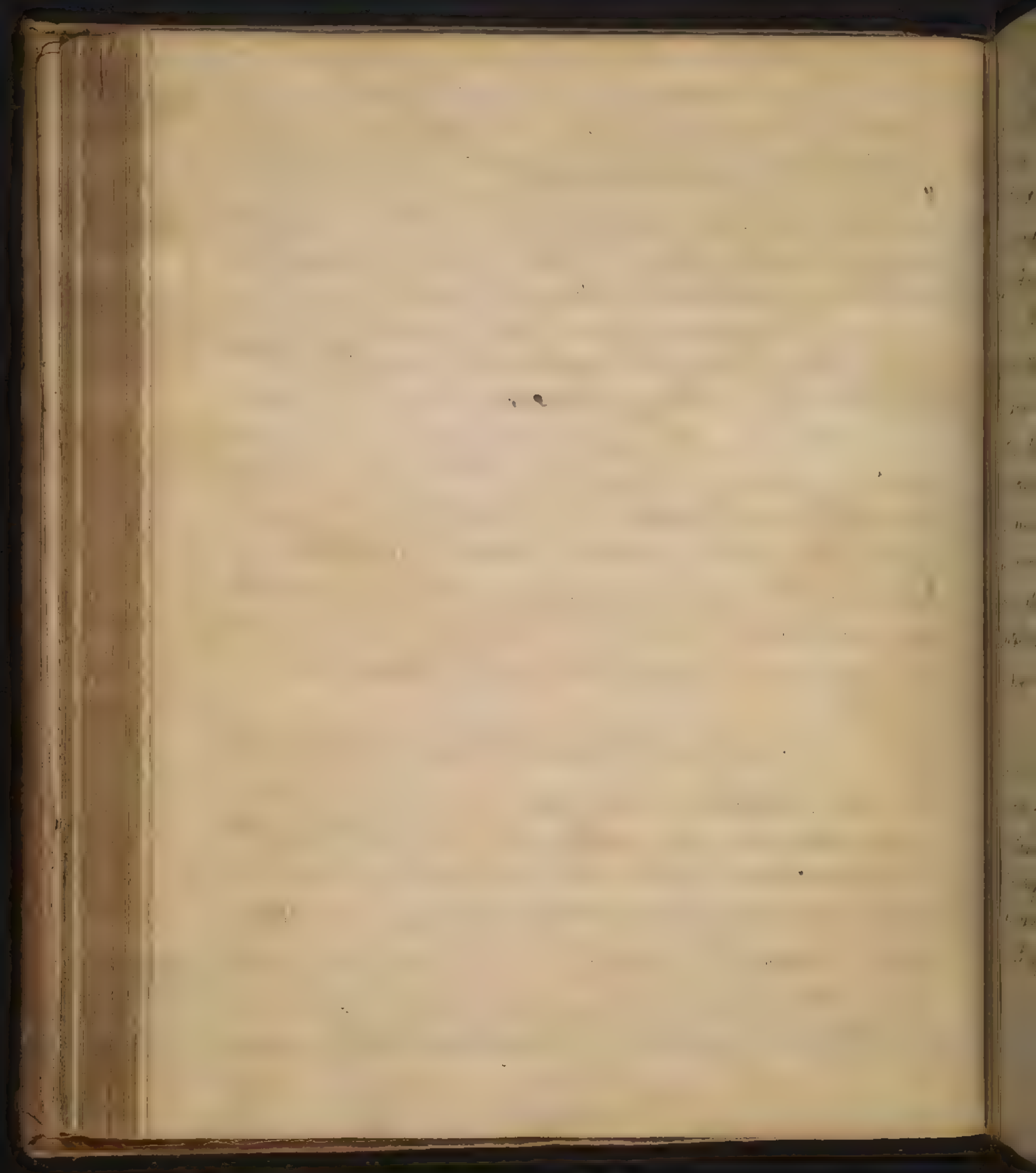
belonging to the same Apartment, are sought after as much as
 much as possible; and all artificial affinities as diligently avoided.
 Every one sees the use of this in Botany - This indeed is a thing dif-
 ficult in Nosologia; but hitherto it has not been much attended to.
 Thus we find in Systems of these Authors the Class Dolores, which
 is entirely an artificial Class, and is characterized by one symptom
 only - It was indeed their aim, and have pretended to, exclude from
 it Inflammatory pain; but have not been able to do it; for
 they have taken into it Arthritis, Ophthalmia, &c. Hence
 appears the Impropriety of it - But I could go on further, and
 show that the Term Dolor is also a very ambiguous one, and
 that as they have managed it, they make it to comprehend
 every uneasy and painful sensation the body is liable to - I have
 therefore, very properly, I think, avoided this Class - At the
 same time I am ready own that my Class Locales is as arti-
 ficial (with respect to the Class) as any of them; but it becomes
 better when we proceed to the Orders: and this fault is always
 greater as it more or less affects the lower Apartments or mem-
 bers of the Division; for if a natural affinity is observed
 between the particulars arranged together, it is not much
 matter though the Connection between the parts of a more
 general division, or the higher Apartments be some what
 artificial.

I have to add with regard to the Characters, that
 nothing superfluous is to be admitted into them; neither
 should they be deficient; but the full Character
 said



laid down concisely - as an Example of this fault, see Savages's
Character of Phlegmone (Gen. 15.) Here "Sphaeroides" "A. monte
in supperationem vergens" is superfluous - He indeed means
by it means to distinguish the Phlegmone from the Furunculus;
which he makes of the size of a Region - But there are both
superfluous Circumstances - In like manner Savages in his
Character of fistula (Gen. 74.) makes particular mention of
its reaching the Bone, which is altogether an superfluous
And no Practitioner would require this Circumstance to Cha-
racterize it. - Also in Linnæus's Character of Septhilis
(Gen. 6.), and in Vogel's Pestilentialis (Gen. 33.) you will
see other instances of superfluous Characters - Savages's
Character of his Oschecele (Gen. 111.) "Cystis in Teste" gives
no Idea of it - Further his Character of the Order of
Ectopis (Page 9th) is improper - Indeed I do not like
the term, though I have myself made use of the same - But
the reason was because, at present, I could not find out
a better.

Next for Example of Deficiency of Character
see the Miliaris of Savages (Gen. 95.) - Besides
which there are many others, where the fault is suffi-
ciently obvious - Lastly take for Examples of deficient
Characters the Gonorrhoea of Savages (Gen. 268.)
and of Linnæus (Gen. 200.) - But in general the fault
is the other way; and you will find for the most part a
proneness for superfluity in Characters and Descriptions.



As to the subject of Denomination or Nomenclature, I refer you for a general Idea of it to the *Physica Botanica* of Linnaeus - and with regard to *Physic* look into the *Prolegomena* of Savages. In a word, I think that some regard ought certainly to be paid to the Nomenclature, i.e. we ought to make choice of proper terms. But it should be a rule to change as few old names as possible, and introduce few new ones - yet it is necessary where we change the idea to change the name also; and this can never be found fault with. But I am ashamed here to observe what *Pedantry* our three Authors have been guilty of in this respect, and how ridiculously vain they are in endeavouring all they can to multiply the number of strange Terms, making Genera of Symptoms &c, particularly Dr Vogel, who is really wanton in this respect, in so much that every time I think of him it puts me in mind of Boileau's *Petant*. &c.

This finishes the whole of the Preliminaries, which I meant to give previous to entering upon the proper business of our Course. Whenever you enter upon the study of *Nosology* you will find it requires some labour and attention, before you can make any progress in it; and till you have some Experience in it you will not be able to see its Application and Utility.

I am, then, to enter more particularly into what
you



you find in the 4th part of our Synopsis - Here I have just made an imaginary division of all Diseases into two heads, The Universal and Local - The former of which comprehends the three first Classes, and the rest to the latter - I mean by the Universal Diseases such as affect the fundamental and primary Functions of the Body, in which we include fever, which principally affects the Sanguiferous system, as being therefore a Universal disease; and the Apoplexia, which is an affection of the Brain in particular, but the functions of the Brain are amongst the most important and fundamental of the whole Body. Nay, we go further and include under this head any Topical Inflammation, which more generally affects the Sanguiferous system, as being, therefore, an Universal disease. But I am not very anxious as to establishing this division. And I observe that but few systems can give such a thing as is called a Clavis Classium - Sauvages and Vogel, you see, have given none, though Linnaeus has. However ours, in which there are 10 few Classes, would admit one more readily -

As to the Characters, I think they are sufficiently obvious: but at any rate the particular description of each of them will come in better in another place.

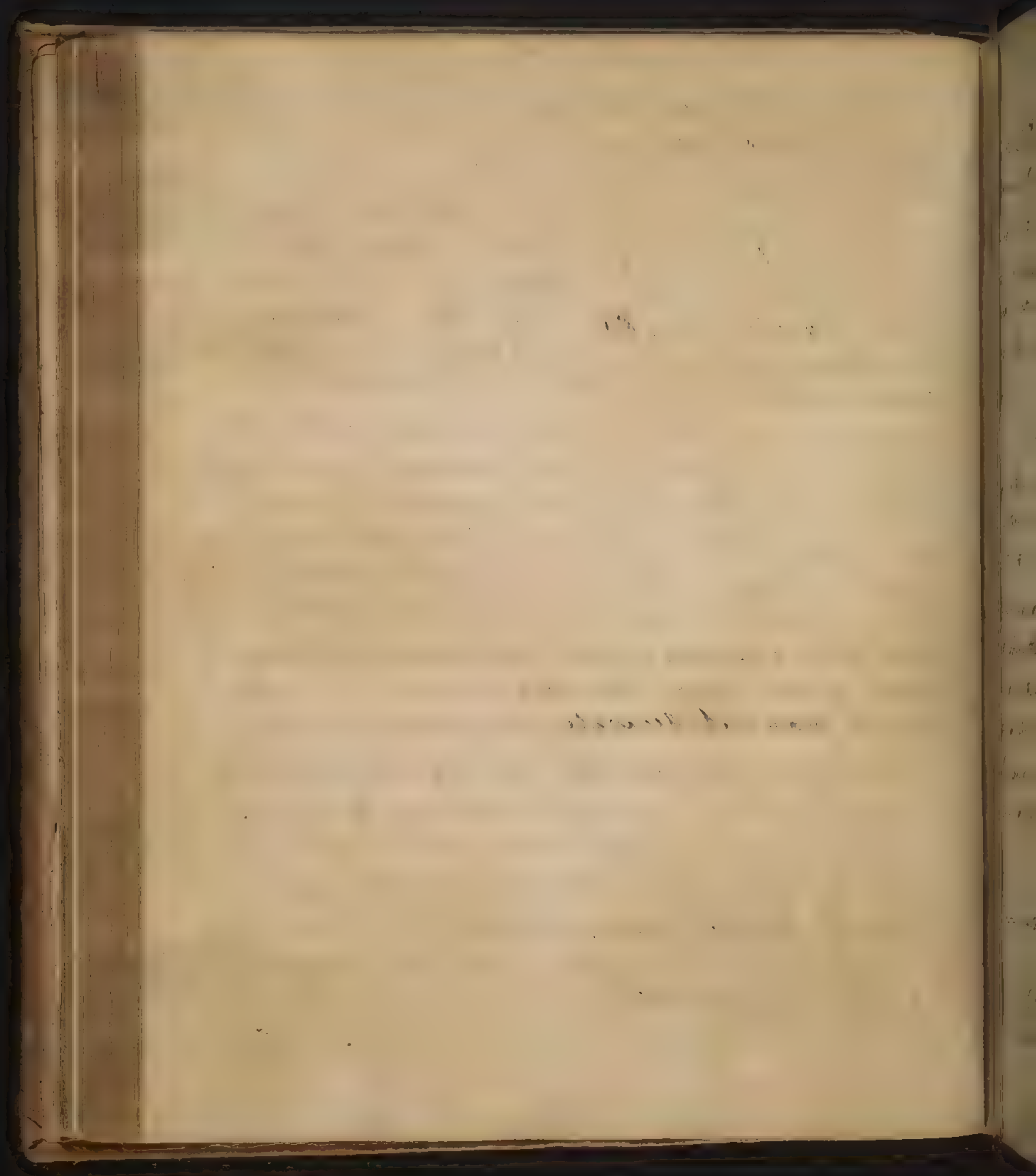
With



With regard to the three Classes of Universal diseases, I shall lay before you what gave me the hint to make such a general division of them -

You know that Pathologists divide the functions of the body into three heads, the Vital, Animal, and natural; and this in Pathology gives a like division of the *Functiones Loci*. Now under our head of universal diseases, I would allot a Class to comprehend the affections of each of these sets of functions - and thus our first Class, *Pyrexia*, answers pretty exactly to the vital functions, and so does our second, *Neuroses*, to the Animal - However, neither of our three classes answers perfectly, I mean, are not quite perfect in this respect, or properly united and comprehended with regard to their separate sets of Functions, so that each may exactly comprehend each respectively, especially the third Class, *Cachexia*, which should comprehend the affections of the natural Functions - But here it is impossible to be quite accurate - The function of Nutrition, which is principally concerned in this Class, will in some measure enter into the rest and run through the whole. This, then, is the foundation upon which I proceed in forming this part of my system, viz. establishing then three classes of Universal diseases; and altho it is not quite accurate, I thought it necessary to throw out this hint for your own consideration.

But



But to come nearer— The system I have delivered in the 1.st part of the Synopsis is exactly to be the plan of our course— By it you will always be able to follow me, and know what is to come next— I shall be glad to find you already acquainted in some measure with the systems, as that will enable you to follow me with more advantage; for I am obliged, you will see frequently, to compare the other systems with mine.

I think the order of our system is preferable to that of others, as it begins in the most common and convenient method— Thus you will easily perceive that I could not begin with the *Vitia* of Savages, being so numerous, mostly Chirurgical & of little Importance, and many not ~~them~~ not admitted into my system, though, upon a certain occasion, he calls them the *Elementa Morborum*, but requires something else to be premised— Neither could I begin with *Scorbutus* *Eosanthemata*, before giving the general doctrine of fever &c.

Having, then, given the order of our course, I now enter on our first Class,

Cl. I. Pyrexia.

(Character. Post hoc prorem pulsus frequens, viribus artuum imminutis)



imminutis) This altogether a natural Class. I might now enter into a discussion of the Character of the Class, but I choose rather to give a general history of Pyrexia; and in doing this I shall chiefly attend to the first and principal Order, of Fevers, to which term, you will see, I have applied a more limited sense than usual; for hitherto the terms Pyrexia and Febris have been used as synonymous - I shall give this general history of Pyrexia, as it is best exemplified in the Paroxysm of an Intermittent, the history of which will apply pretty well to the Class - and the method in which I give this history of a single Paroxysm of an Intermittent, I intend as a model (and you are to take it as such) of the manner in which I shall relate the history of every disease through this course.

I say, then, that the Paroxysm of an Intermittent comes on with a sense of Lassitude, consisting of a sluggishness and aversion to motion with debility - This is accompanied with Pandiculation, or yawning involuntarily, paleness of the Skin (the veins disappearing on the surface) especially in the extreme parts, the tip of the nose, and the Nails - The bulk of the body is now sensibly diminished, the Face suffers a Collapse, and things which before were sufficiently small, now drop from the Fingers - &c. - Now the Skin is dry, the Papillæ (from
whence



Hence the hair grows become more eminent and remarkable,
 in so much that from the similitude, they have in several
 Languages got the name of Goose skin - With this, or
 soon after, a sense of cold comes on, commonly felt first in
 the feet and back, with a sensibility to external cold - When
 the patient desires to keep himself covered, or hovering
 over the fire - This, beginning in the feet, spreads from
 thence through the whole body, with a sense of creeping, espec-
 ally along the back, where there is sensation similar to that
 of pouring cold water upon the Part, frequently proceeding,
 as it were, with Rushings over the whole body - This
 brings on a Tremor, affecting all the Organs of Voluntary
 motion, but more especially those that are not well balanced
 and supported, as the Lower Jaw - along with this, fre-
 quent Rigors or sudden convulsions of the whole body -
 And now an actual or real cold comes on, which is sensi-
 ble to the touch, whereas the cold before mentioned
 was felt by the Patient only - Next transient fits,
 of flushings of heat and cold alternating, come on, till
 at length the heat prevails, and after some time extends
 itself perfectly and permanently over the whole body -
 With this the colour and fullness of the skin return.
 These and the heat are for sometime attended with a dryness
 of the skin, but afterwards some moisture appears, termi-
 nating at last in a profuse and universal sweat, with
 which



which the heat and other symptoms gradually recede and become less, till at last the returns agree to its natural state. ^{73.}

This, then, is the general and most ardent series of Phenomena that occurs in a Paroxysm of a common Inter-mittent, and which characterizes the general name fever. You will observe that in the above relation I have chosen the manifest appearances only, which are more especially perceived by the Patient himself, or are evident to the By-standers.

But there are many others which are to be remarked by the Physician - and then I shall now proceed to relate - But before we do this it is necessary to establish a certain order.

Physicians have divided the series of Symptoms occurring in a Paroxysm of an intermittent, into three Stages. What Dr Sydenham calls the *Tempora Ephorrescentis Ebullitionis, et Desumationis* - or what in English we name the Cold Fit, Hot Fit, and Sweat, or sweeting fit.

I shall proceed to give the other Phenomena, as they respect each of these Stages, and shall begin with the Pulse.

This, at the coming on of the cold fit, is weak, small and frequent - as the cold fit advances, it becomes

irre



irregular, weaker, and Intermittent - When the Tremor comes on it becomes stronger, and is somewhat more regular - As the heat prevails it grows stronger, and soon quite regular, though it is yet small and contracted - But with the eruption of the sweat it becomes fuller and softer, till at last it subsides entirely, and becomes natural -

2. Respiration. In the cold fit is small and difficult. When the hot fit comes on, it becomes larger and more easy - till at last, with the sweat, it is quite easy, and at the same time less frequent - In short the respiration undergoes the same vicissitudes and keeps up all pace with the Pulse - at the same time there is an anxiety attending it, which depends on the difficulty of Respiration, and consequently varies exactly with it in the different Stages.

3. But besides this there is another anxiety depending on the State of the Stomach - With regard to this we generally observe in the beginning of the Cold fit an aversion to all Ingesta, and such things as at other times would be agreeable, as snuff and Tobacco, &c - This proceeds to Nausea, and at last Vomiting, and the matter ejected is generally Bilious - The Nausea is most troublesome in the height of the Cold fit, but is always suspended for a time by the exertion in a fit of Vomiting; as it is the effect of every fit of Vomiting to diffuse some glow over the skin - When the hot fit comes on the Nausea begins to go off - and with



with the sweat quite disappears.

75.

4. Next let us view the Secretions - In the Cold fit there is a dryness of the Skin, with Thirst, which accompanies, however, both the Cold and hot fit - But in the Cold fit it arises from a sense of Claminess in the mouth, and in the hot from a sense of heat.

5. Also with regard to another particular secretion, the Urine; if any is voided in the Cold fit, it is pale and crude; in the hot fit it becomes high colored, and in the sweat deposits, for the most part, a copious & ~~abundant~~ ^{viscid} sediment.

6. Stools rarely occur in the Paroxysm, but when they do it is in the Sweat.

7. Any morbid Tumors ("and perhaps Ulcers") that are about the body, suffer during the Cold fit a Detumescence, and that sometimes in such a manner as never to return, but for the most part, the determination ~~being~~ particularly to the surface, they are restored and even enlarged in the Hot fit - Also Humming Ulcers in the Cold fit become dry, but in the hot fit are restored with an increased discharge.

8. Besides these symptoms, along with the Cold fit, a headach generally comes on, which continues, and goes off entirely only with the Sweat - Other pains, as those of the back, accompany this period.

9.



9. In the cold fit there is also a great insensibility^{76.}
This is sometimes so remarkable that Persons have
had their feet burnt without knowing it. But
in the hot fit this is succeeded by an increased sen-
sibility, which is particularly observed with regard
to light and noise, the usual Impressions of which
now give so great a stimulus as not to be easily en-
dured.

Next with regard to the Intellectual Functions

1. In the cold fit a difficulty of attention and a con-
fusion of thought frequently come on and proceed some-
times to delirium. Then continue in the hot fit, and
at last go off with the sweat. There is also so great
a degree of stupor that the Patient is sometimes coma-
tous. There is likewise in the cold fit frequently
a great variety of spasmodic convulsive motions
excited in the system, along with Tremors, &c.

These in general are the Phenomena that
occur in the Paroxysm of an Intermittent. But
I do not mean that every Intermittent goes exactly
thru this series; for, on the contrary, we shall find,
that there is in them a considerable variety.

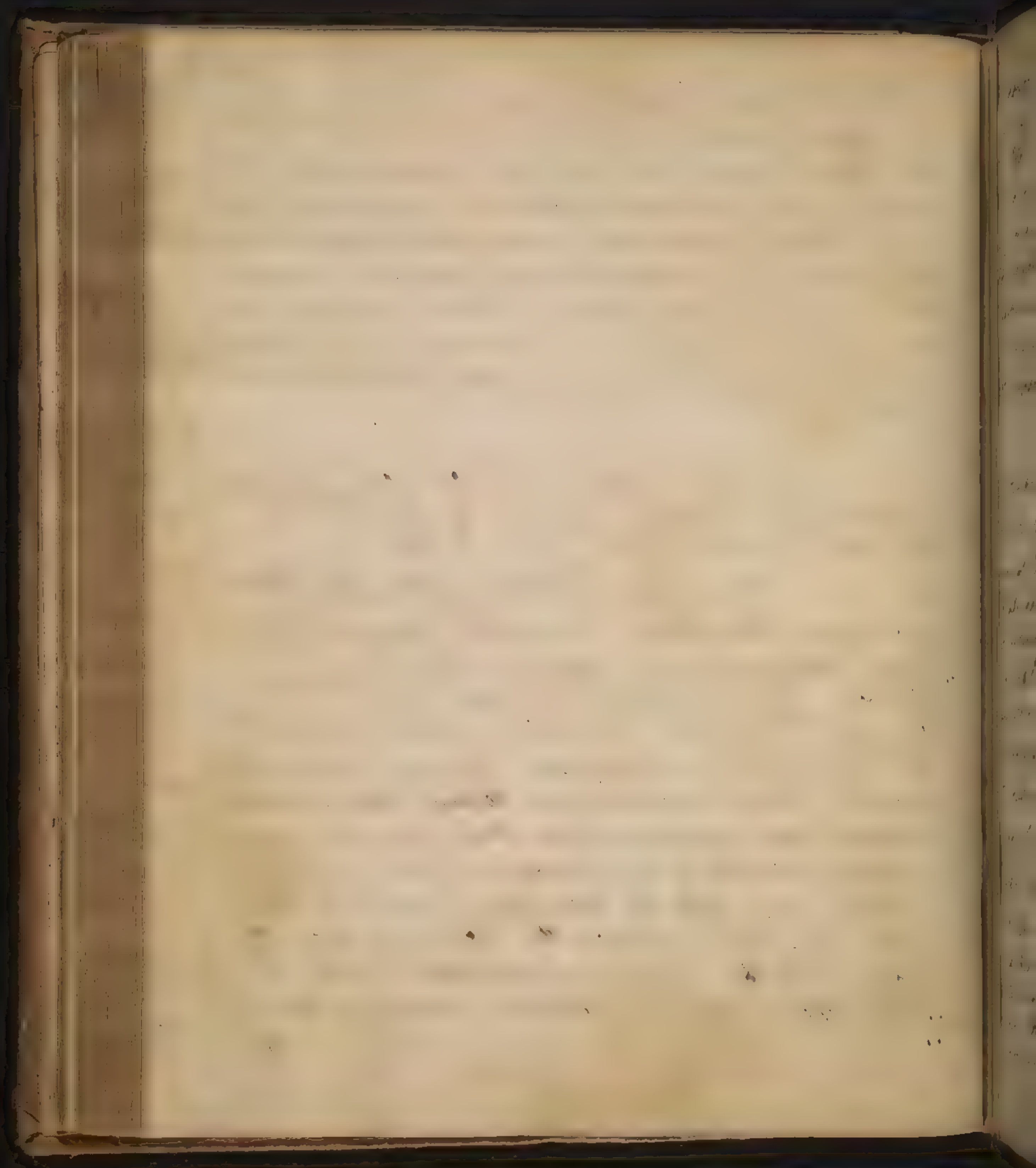
The Paroxysms of Intermittents have va-
rious lengths, from five to twenty hours. Vogel says
says to eighteen, but I choose to give greater latitude, and



I hope with some propriety - also while the whole fit occupies in different instances different spaces of time, the different parts of the same fit (as before distinguished) occupy different portions of this time - sometimes a hot fit is resolved without any sweat following, and in like manner a cold fit is sometime not followed by a hot one; for it is indeed a fact, that no Patient ever dies in the Paroxysm of an Intermittent after the hot fit is formed, but before, in the cold - some will dispute this point with me, but it is a fact

The subject of fever, which we have begun, from its frequency and Fatality, is not only the first but also the most important part of our business -

I have begun with the history of a Paroxysm of an Intermittent, by which I give an Idea of every Instance of fever in general - But it is to be observed that hardly any fever goes off with only one such Paroxysm; but after a certain space called the Intermission or Apyrexia, the same series of the phenomena begin anew, and run through the same course. Now, this space of time in which there is an entire apyrexia, or from the end of one Paroxysm to the beginning of the next, is called the Intermission - and the whole space of a period, or from the beginning of one paroxysm to the beginning of another, is called the Interval - The most common interval is that of



48 hours, which is called ^{Tertian}; and this is so universal, that I believe of ten Intermittents that occur, nine of them are of this type - The next most common Interval is that of 72 hours, called the Quartan - Others have been observed, as especially an Interval of 24 hours, or the Quotidian. And besides these Authors have remarked some that are shorter even than the Quotidian - But I hardly consider them as giving different Species of Diseases, but rather look upon them as anomalies of the others -

The duration of the Paroxysms of Intermittents is from 5, 8, 12, or 20, hours; and none are observed to last longer than this - But there are Paroxysms of Fever which do not come to an Intermission in 24 hours, yet though the hot and sweating fit do not entirely go off, they will always in this period "suffer a Remission or abatement of their Violence; and when the Remission is without sweat, and the returning Paroxysm ~~is~~ accompanied with cold, the new Paroxysm at the end of 24 hours is called an Accession - And the Fever consisting of such, is called by Authors a Remittent, or by Linnaeus Febris Exacerbans - In these the Remission is marked with a sweat, and the accession or Periodical return of the Fever, by a return of the cold fit - But "when the Remission is without, and the ensuing paroxysm without cold, the fever is continued.

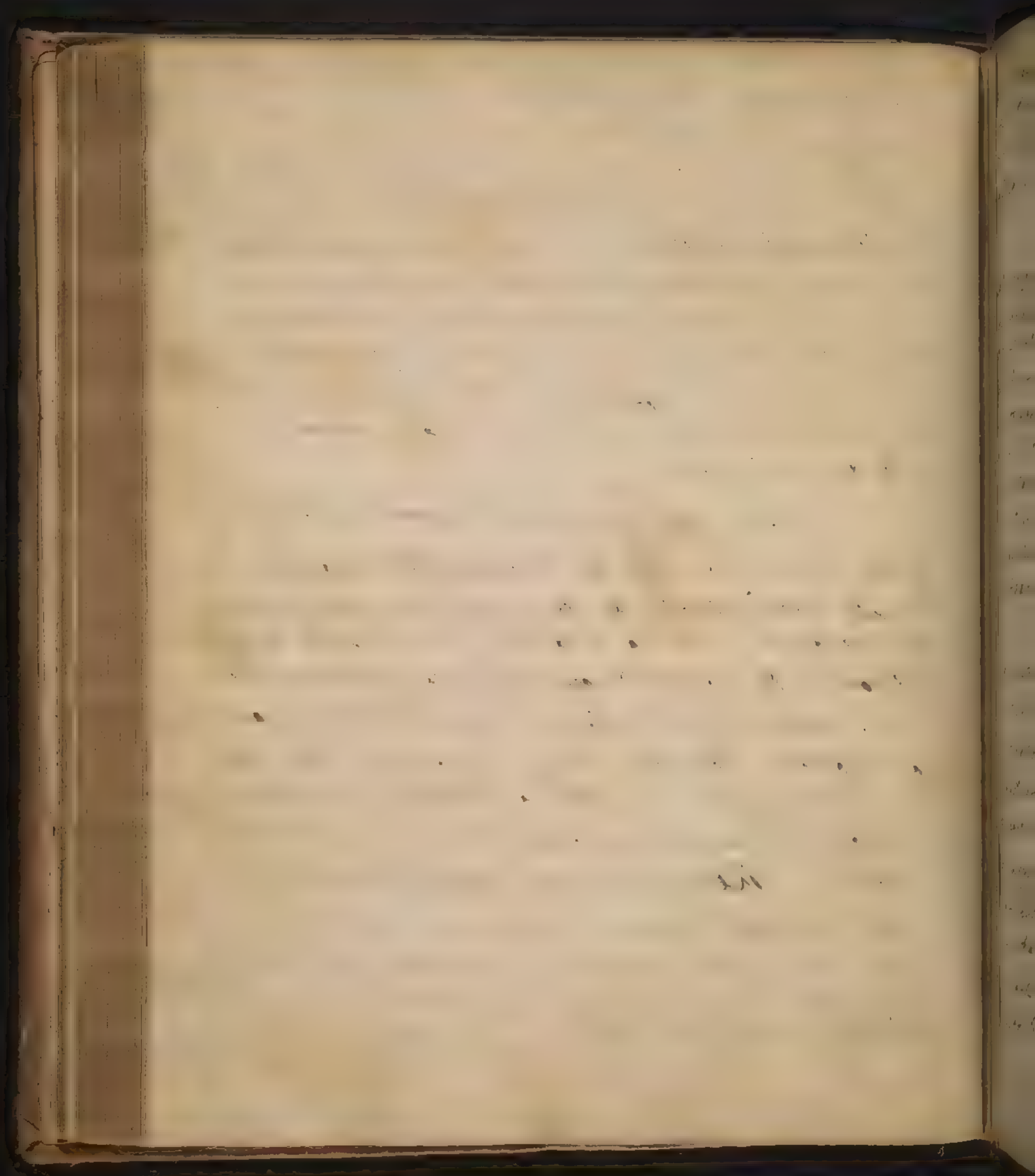
When



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When these then circumstances of the Periodical
return of sweat and cold fit are not noted, and the fever has
scarce any remission, and its returning Paroxysms are distin-
guished by some increase of hot fit only, this is called a
Continued Fever. This has gone so far that many
Physicians have thought that there are two fevers, con-
sisting of but one continued Paroxysm, which they run
through with Uniformity from beginning to end -
all, I shall say in Exploration & this Opinion is, that
through the whole of my Practice, I have never met
with any such fever.

Now with regard to the Proposition of the length
of the Intermision and the Duration of the Paroxysm -
In all Intermitents, the longer the Interval the shorter
the paroxysm - I have a Quartan, which has the longest
Interval, is the shortest Paroxysm and longest Intermision.
The Paroxysm of a Tertian is somewhat longer; and
a Quotidian has still a longer Paroxysm with a short-
er Intermision - so that a Quotidian sometimes
having its Paroxysm protracted to twenty four hours,
becomes an Intermitent, and that frequently of the
most continued kind - It appears, then, that all fevers
have a considerable affinity to one another - And there-
fore I have taken a Paroxysm of an Intermitent, as a
proper example of the whole - The symptoms of which I
have



have drawn up with as much care and accuracy as possible. But lest you be not contented with what I have given, I shall refer you to the principal Authors on this subject, in order that you may consult them at leisure.

First, then, in Boerhaave's Aphr. 749. and the following, you will find the history of Intermittents well delivered. I thought he says little else of much value on this subject. Consult also Dr Hoffman's writings on this subject, in which you will find many curious and useful things - also C. Leghorn's on the disease of Minorca - and a Book entitled "De Recondita Febrium Intermittentium Natura" to which the Author has not put his name, but it is ascribed by every one, and that with pretty good certainty, to M^r Vande, first Physician to the King of France.

Having now enumerated the Phenomena I shall next, before I proceed to the third head, under which I intend to distinguish the Species, attempt the Investigation of the Proximate Causes of fever. Here I shall enter on what you will call Theory, and therefore, perhaps, object against it. Unto those who are disgusted with the name, and will look upon what I am entering upon as an interruption, I can but promise they will suffer this Interruption for a few days only - and can tell others that they have no reason to be scared at it, whatever Idea they may at present



present entertain of it. For my Part I consider the whole of my reasonings and proceedings in this matter only as an enumeration of Facts and establishment of them. Philosophers in general do not pretend to explain the manner of Connexion between Cause and Effect, to show how the one comes to follow the other; but only endeavour to establish their necessary Connexion as a Fact. By this manner of reasoning, then, resting every thing, I shall advance on Facts what I propose to offer on the Investigation of the Proximate Cause of Fever---
 My order in every disease shall be

1. Definition.
2. Description or History.
3. Proximate Causes, to which will
 1. Genera and Species.
 5. Remote Causes.
6. Prognosis.
7. Method of Cure.

III. Proximate Causes.

This indeed is among the most difficult Problems in Physic, and one which has hitherto baffled the attempts of all Physicians. I do not expect to execute it



It is such a manner that there will remain no doubts and objections to it; but hope I shall be able to bring the matter somewhat nearer to truth, and to point out the method most proper for prosecuting it further. We shall also by my attempts get rid of a great deal of false theory that has been introduced on the subject of fever.

I first observe, then, that the Phenomena of fever are very various; but as they in general succeed one another in a series with some regularity and constancy, there is a strong presumption that they depend upon one another as Cause and effect, and that the whole series arises from one common Cause. At the same time I do not deny that the Cause of fever may be often of a compound Nature, and that some Phenomena that occur may be owing to the action of accidental Causes, and are not at all the effect of the common Cause. But I presume that there is one common simple Cause, upon which the most general and steady Phenomena of fever depend. This is what it is our business principally to enquire after.

I am now, then, to Investigate this common Cause of the variety of the Phenomena of fever. And here in the first place we agree with all Physiologists that the Phenomena in this series succeed one another as Cause and effect. Next I assert also what they have agreed on, that frequency of the Pulse is the leading symptom of fever, and that the increased action of the heart and Arteries is the part of the series of Phenom-
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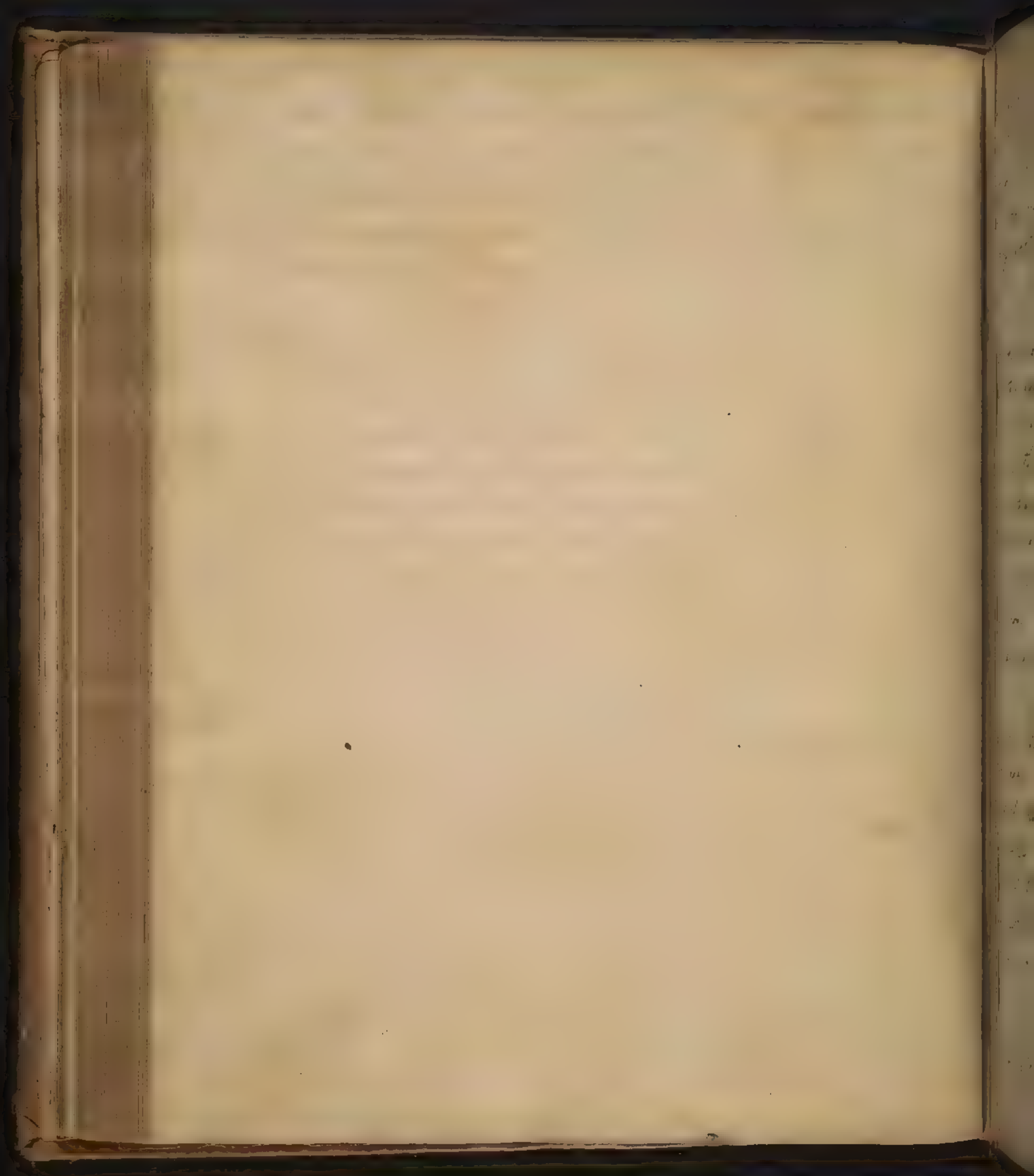
142.

Phenomena which is to be looked upon as the fever—
 Now in searching for the Cause of this, what first occurs
 to us is a direct Stimulus applied to the heart and
 Arteries (You know what I mean by a direct Stimulus).
 This, then, is what would immediately occur to us, on viewing
 only the hot fit of fever, or the increased action of the heart
 and Arteries—Accordingly a Direct Stimulus of this sort has
 been hitherto generally admitted as the Cause of Fever. But
 on supposing this at once a Difficulty occurs, viz, that very
 often direct Stimuli are applied, and do increase the action
 of the heart and Arteries, and yet do not produce fever;
 for no disease in such case is said to be present—This is the
 effect of Exercise, Wine, Exposure to heat, &c. Therefore
 every body allows that the increased action of the heart and
 Arteries alone does not constitute Fever; but that other Cir-
 cumstances besides this must attend before a Fever can be
 said to be present—What then other Circumstances are
 is not, however, so well agreed—I think the most Uni-
 versal Circumstances should be taken in, and we should
 say, an increased action of the heart and Arteries following
 a cold fit constitutes a fever—This then being established,
 in fact, still further disconcerts what we took up before,
 viz, the notion of the hot fit of fever being owing
 to a direct Stimulus—This however is the Opinion
 generally prevailing, and which is in the mouths of above
 two



two thirds of the Physicians of the present age -
How upon these Principles is the hot fit produced from the
Cold one which precedes it? - I think it necessary to enter
somewhat deeper into a Doctrine that is in general, and
however absurd it be, it is necessary that you be acquainted
with it -

Let us see then how Dr Boerhaave proceeds
in this matter (vid. Aph. 577). Here he admits a compound
Cause acting, and says that one part of the Circumstances of
of the Cold fit is at the same time giving a direct Stimulus to
the heart and Arteries - Further (vid. Aph. 581. and the following)
his last words are "Unoque nato, facile alterum requiritur" -
Here is an obvious Embarrassment in his Doctrine - In this
place the first question to be determined should be, which
of these two states in fever precedes the other? for that which
precedes must be looked upon as the Cause of the other: But
neither he, nor his Commentator Van Swieten, have entered
into this Question. (Vid. Aph. 586.) - Here Dr Boerhaave
enumerates a great variety of direct Stimuli, which
he does not here ~~look upon~~ ^{regard} as the primary Causes of
fever - But neither has ~~he~~ nor Van Swieten for him
explained how these Causes (586) produce the Cold fit; for
they are all direct Stimuli acting on the heart and Ar-
teries. (see again Aph. 582. with the Commentary.) But
observe that in the Series of Phenomena or Facts, that
which



85.
that which comes first is the cause of what follows - Thus the cold fit, which always precedes, is the cause of the hot fit - Therefore it appears that Dr Boerhaave and his followers are very much perplexed here, and have got on a very wrong footing -

I assume it, then, as a Fundamental Proposition, that the Causes of fever operate in producing the cold fit; and that this again produces the increased action of the heart and arteries - The nature of the remote Causes will also be found to agree with this Proposition, and to tend to support it - But I infer that the cold fit of fever is the cause of the hot fit, from the Universality of the Succession, as they occur in fact: To prove which I use the Testimony of Dr Hoffman (Vol. 1. Pag. 35.) - This I hope will be strongly supported by the Explanation we shall give of the Proximate Cause -

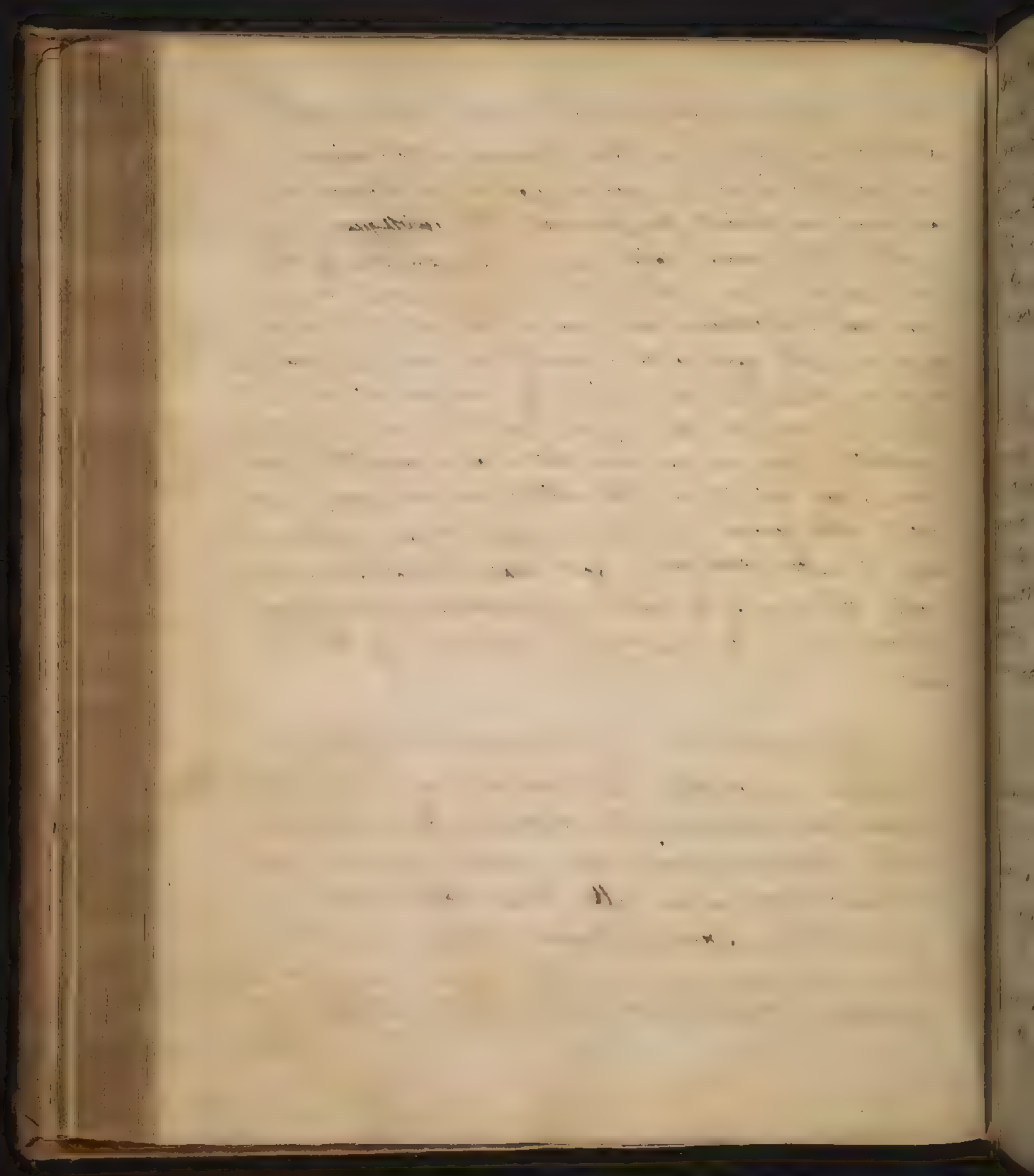
(I shall here supply an Omission I was guilty of formerly, when speaking of my References in the Synopsis. You made to Dr Hoffmann's works do not respect his Med. Rational. Systemat. as divided into Volumes, and first Published by himself: But my references are made to his whole works, as Published altogether in the last Edition (that of Geneva) and distributed and bound in six Volumes 4to. - One of which contains 3 or 4 Tomes, as they were first divided by the author)

It very strongly asserts the Universality of a cold fit preceding the hot one - Nothing is more necessary



necessary in reading Boerhaave and Van Swieten than to observe a particular inconsistency in their Writings on this subject - (in Aph 756.) Here he calls the Cold fit the *Palma causa*, and says if we obviate this, the whole of the subsequent is prevented - His Commentator gives an Explanation of this - And upon the whole I think if there is any doubt remaining, but that Dr Boerhaave and Van Swieten were of the same Opinion, with regard to the Proposition we are maintaining, as we are, it must be this - That they are explicit only as to the Cold fit being the cause of the hot fit in the case of Intermittents - But we shall find that what is admitted as the Cause of the hot fit in Intermittents, will also apply in general to other fevers. Therefore we take it for granted, and deem it matter established in fact, that the Cold fit is universally the cause of the hot - and that the Cause of fever, in all cases, is to be sought for in the Cause of the Cold Fit.

In enquiring into the Causes of the cold fit of fevers, Bellini universally, and Boerhaave in his early Editions, supposed fever was owing to a Lentor or Viscosity of the Blood - Boerhaave seems to have perceived the Imperfection, and accordingly in his ~~last~~ Editions of his Aphorisms, he refers it to an *Inertia liquiduli Nervosi* - and Van Swieten in his Commentaries on this imputes entirely to an affection of the Nervous System, rejecting the state of the Blood

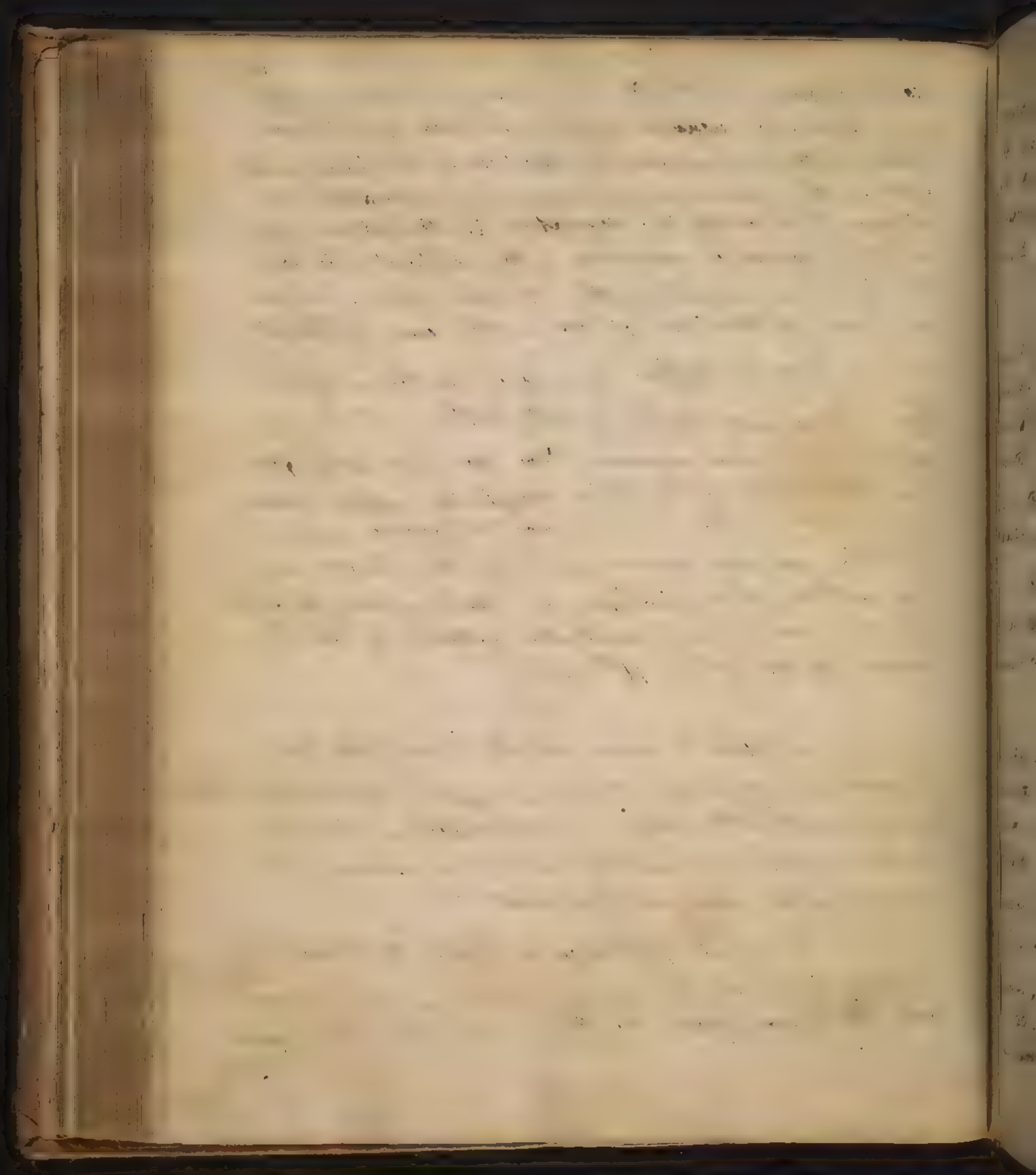


blood. Moreover Dr Whytt, who, I know, was once of a different Opinion, expresses himself in his Book upon Nervous Disorders to the same purpose, viz, that "the cold and shivering which occur in the beginning of most fevers and Inflammations, do not seem to be owing to a stagnation in the extreme vessels, but to a spasmodic contraction of these Vessels." The cold, fit, then, is an affection of the Nervous system. And you are to look for the Cause of fever in the Cause of ^{the} Cold fit.

Different Authors have searched for this in different Ways. Hippocrates attended by little to this, or to the moving powers of the System in general. The Galenists looked for it in the Qualities of the fluids, though they supposed an active power in the System, which excited the febrile motions immediately; yet they always searched for the Remote Causes, which acted on this principle, in the Qualities of the fluids. And this doctrine was implicitly followed by all Physicians till the 15th or 16th Century.

I proceed to enquire into the Cause of the leading Phenomena of Fever. This is an enquiry that has hitherto met with little success. I shall proceed in it with Caution, as they are connected with Circumstances, that are in a great measure complicated.

We must first enquire whether the Phenomena of fever depend on one common Cause, or on a compound one. We suppose from the Universality and similar regular Succession



88.

succession of the Phenomena, that they depend on a common Cause - The hot fit is the most evident and remarkable part of the Series of the Phenomena of Fever, and therefore it has been principally attended to, and consequently the Cause of it only enquired after -

The first thing that is suggested to us here, is a direct stimulus applied to the heart and Arteries, which accordingly is admitted by Dr Boerhaave as the Cause of Fever - At present, however, it is found necessary not to confine the Character of fever to the hot fit, but also to take in the Circumstances of the Cold fit, otherwise the Character will be very imperfect and inaccurate.

No one has yet been able to explain how a cold fit can be produced from the action of direct Stimuli - We must therefore attempt another method.

I think we shall proceed better, met with fewer difficulties, and come to a more successful Conclusion, if we consider the cold fit as the principal part of the Phenomena of fever - and this, I think, we are led to by the state of the Facts... From the Universality of the Cold fit, we conclude that it is a principal part - and then as it is first in time, we infer also that it is first in the Series of Causes and Effects - You will believe this the more readily, as I told you that Dr Boerhaave and his Commentators have both in a great measure come into the same opinion - on



Opinion, as you may see in their writings on this subject, particularly the Intermittent fever. In this they are explicit in giving their Opinion, that the Cold fit is the Cause of the hot. However Dr Boerhaave imputed the Cause of the Cold fit a Lentor of the blood * obstructing the extreme vessels. But I did not spend many words in refuting this Opinion, as it is now given up by the Boerhaavian school; for I shewed you that Van Swieten imputed the cold fit entirely to an Imperium faciens, or nervous system. I also quoted something to the same purpose from Dr Whist and Dr Hoffman, both of whom we found to agree in the same opinion; which in short is this, that the cold fit of fever is an affection of the Nervous system. Thus far I concluded yesterday - and this I look upon to be a conclusion of very great Importance, and one which is connected with a great part of the principal Doctrines of our modern Pathology, not only with regard to fevers, but to other subjects in Medicine.

But we are not to rest on from the matter in hand so quickly - I am always anxious to examine well, and discover with certainty the fallacies of old Doctrines before

* Is not this an Opinion too general and severe? For Boerhaave seems to have had some notion, though an imperfect one, of Spasms occurring in fevers. He generally indeed means of ~~lento~~ as the Cause of Obstruction, but after



90.
before we reject them; and also before we admit any
thing new, I enquire strictly on what foundation it is
built.

Before the time of Van Helmont ^{Physicians} only looked
for the cause of disease in the qualities of the fluids -
and at this time it was held a general maxim that
Disease consisted in a certain Temperies of the matter of
the

afterwards our expressions that apply also to megrim -
Thus (Aph. 581.) "Vilior Cordis contractio cum aucta
ad Capillaria resistantia, Febris acuta Ideam aboluit."
and as the remote cause of this Paroxysm, mentions Ingesta
que Irritant, suffocant, obstruant, putrescant. (Aph. 583.)
Again in the Cure of fevers, though his three ^{ma} Jada: are to dissolve
Lentor (593), he subdivides this (607-609.) into three
numbers, the second of which is, "quod ibi (in emperariis) habet
ad extrema Capillaria ob Hebras horum Infimo Contractas,
At hinc aretatis solvitur Laxatur febris, At acce Contracti-
ones Causa ablata." He hints at the same distinction
under the Trigus febrile (625.), and under the Angustia
(631.) - He repeatedly refers the difficult passage of the blood to
a Spasmus Fasculorum Contractorum, and the materiam
Inflamata, or viscid blood - In (634.) he carefully unparates the
Indication



the Body - Thus fevers were imputed to Heat - Van Hel-
mont however advances that the motions of the System
were more concerned, and ought to be more attended than the con-
dition of the matter of the body - This system however was after-
wards modified by his Disciple Solanus - However along with
this there were so many mysterious and fanciful things in
his system, and particular Doctrines, that it was not generally
admitted, but rather derided by Physicians.

Solanus defines fever to be an increased velocity
of the blood - and in this he was followed by Dr Boerhaave.
But it is evident, if this were all that constituted fever, our cure
would be only to diminish the velocity of the blood - Happy
would it be for us if this were so; for certainly we have
nothing more in our power than simply to diminish the
velocity of the blood, by such applications as diminish the
force of the moving powers of the Circulation. But Physi-
cians well know the bad consequences that are liable to ensue
from the application of such direct means of diminishing
the

Indications arising in these two causes, and adopts his
Remedies to each - In (728) he says *Ephemera Causas*
agnoscit solum motum vehementerum nec ullam mater-
iam - Upon the whole, Boerhaave may be ranked
among

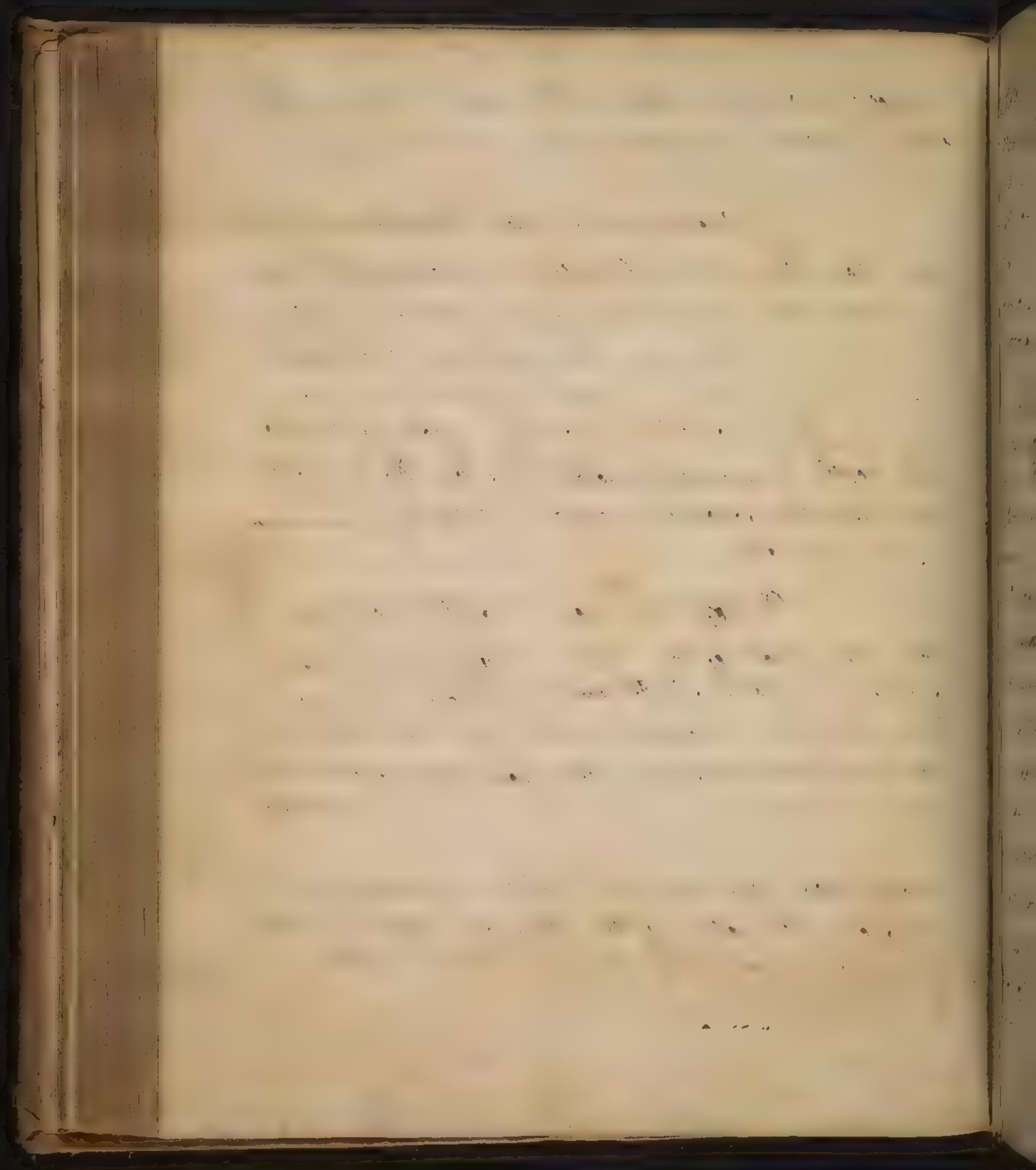


the blood's velocity; and that on the contrary we are often
obliged to make use of such means in the Cure of Fevers
as tend to increase it. 92

As to our present system Boerhaave and Bel-
-line have the principal share in forming it. They
apply their attention to the state of the fluids, and impute all
to Lents and Acrimony. Thus (Ant 598.) Dr Boerhaave in
a few words gives the general cause of fevers, which you ob-
vise chiefly in correcting acrimony, resolving Lents,
and lastly in expelling both. And this Doctrine of his
was implicitly followed by almost all the Physicians among
us till very lately.

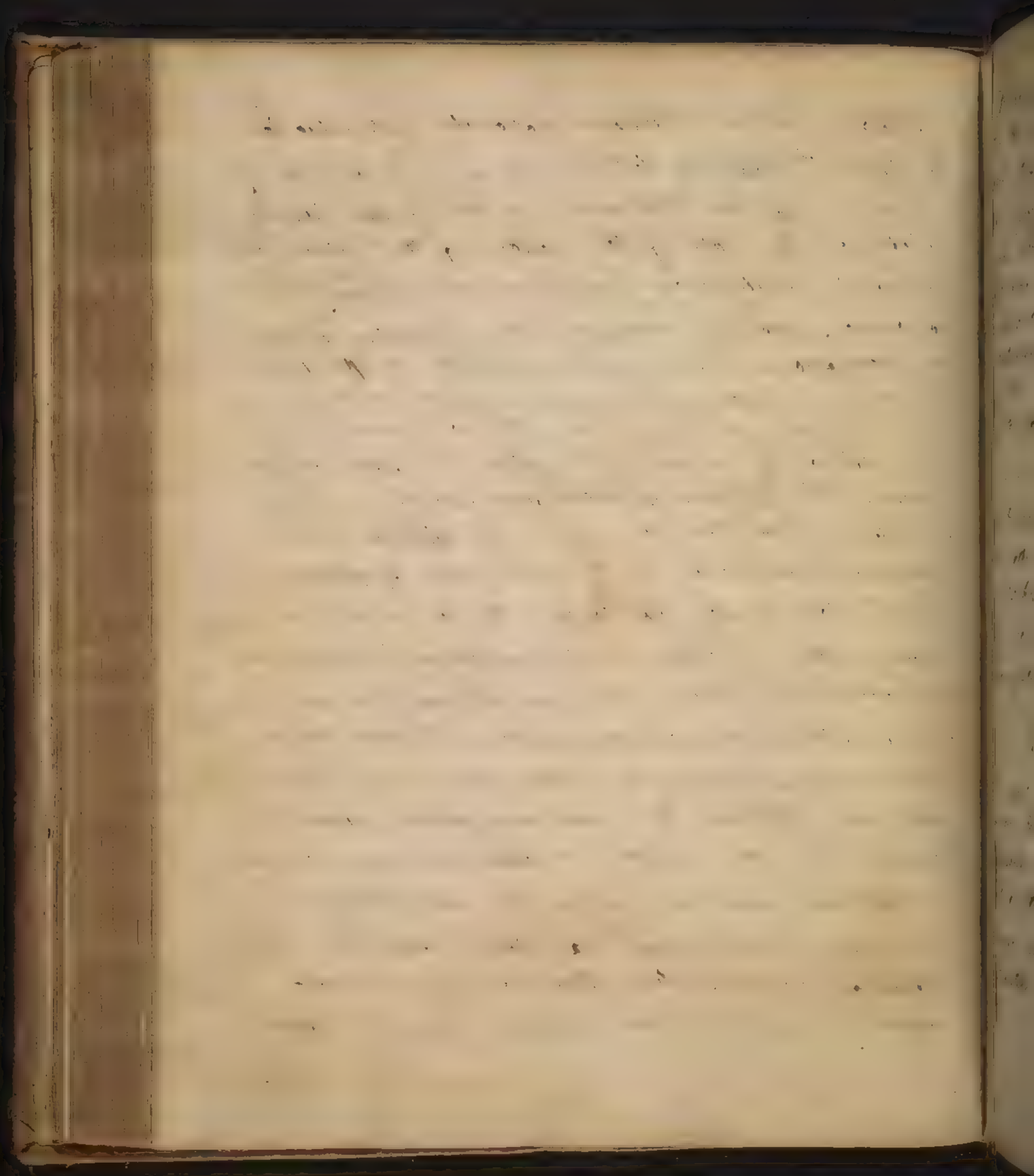
Dr Hoffman was the first who began to
notice the motions of the system, as being principally
concerned in disease, and to take them more into his account.
Him, therefore, I consider as the first, and the one who
has the greatest honor in the reformation of our modern
Pathology

among those, who under the influence of strong prejudices,
yet from the nature of the thing and deficiency of their
own Theory, have been obliged to admit Spasm as
the cause of Fever.



Pathology (vid his *Medicina Rationalis Systematica* Tom. II Part 1. Chap. 2. Sect. 8.) The sum and conclusion of which is, that the Phenomena of the System depend chiefly on the state of the motions of the System (and Sect. 9. is entirely to our present purpose). Indeed this is so obvious that it is surprizing how Physicians did not see it long before. It is true that Willis, Kepper, Baglivi, Bellini and Morton made some small attempts towards it; But Hoffman was the first who attributed disease principally to the state of the motions of the System. To speak more particularly, Dr Hoffman considered fever entirely as a change of motion in the Vascular system, and attributed it to a Spasmodic Constriction on the small vessels of the body - and his doctrine was, that however this Constriction was resolved, whether by Nature or Art, as soon as it was done the fever was cured - Hence in the cure he attended to such remedies only as acted on the Nervous system - Though this doctrine does not explain the whole business, yet it goes a good way - Hoffman here could only establish general Facts, which also may often be their own case - Therefore I shall now make an apology for both Dr Hoffman and myself in this respect - and this I shall do in the words of Jan Swieten (Pag. 528.) "*Symptomata quidem* *ludere*."

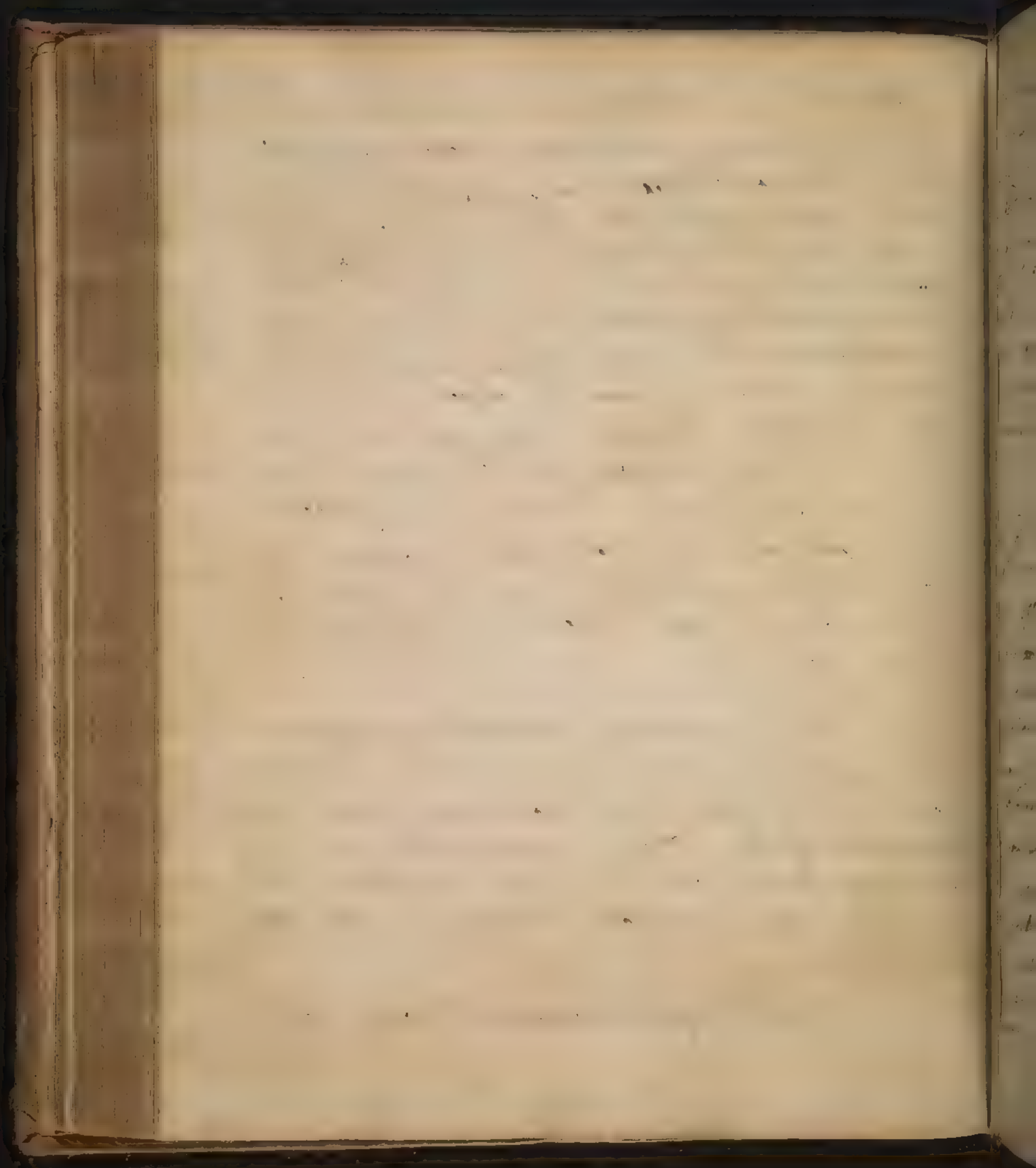
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Therefore, from Dr Hoffmann's being unable to go further, the Doctrines he advanced never were received till lately - But now Physicians in general at least allow that in fevers the nervous system is principally concerned - Even Dr Boerhaave in the last Edition of his Aphorisms is of the same opinion; for here besides his Viscositas Liquidi Arteriosi, he refers the Causes of Intermittent fevers also to an Inertia Liquidi Nervosi - (See also what Van Swieten says upon this subject in his Commentary to Aph. 755. - Pag. 527.) Plura jam hinc Paroxysmos napa fuit, &c. I use his very arguments to prove the point in Question - He inculcates the same in other parts, and at last comes to a conclusion, Pag. 540. "Ep hactenus dictis &c." The sum and substance of which is shortly this, that the Fever is an affection of the Nervous system -

Thus we have examined the Progress of Opinions with respect to the subject at present in hand, and at last have come to this conclusion in the Boerhaavian school, and that established by the authority of one of the greatest men in it, viz. that the Cold fit of Fever is an affection of the Nervous system - Therefore I need not accumulate other Authorities -

Many of you perhaps will wonder why I
Signed



35.

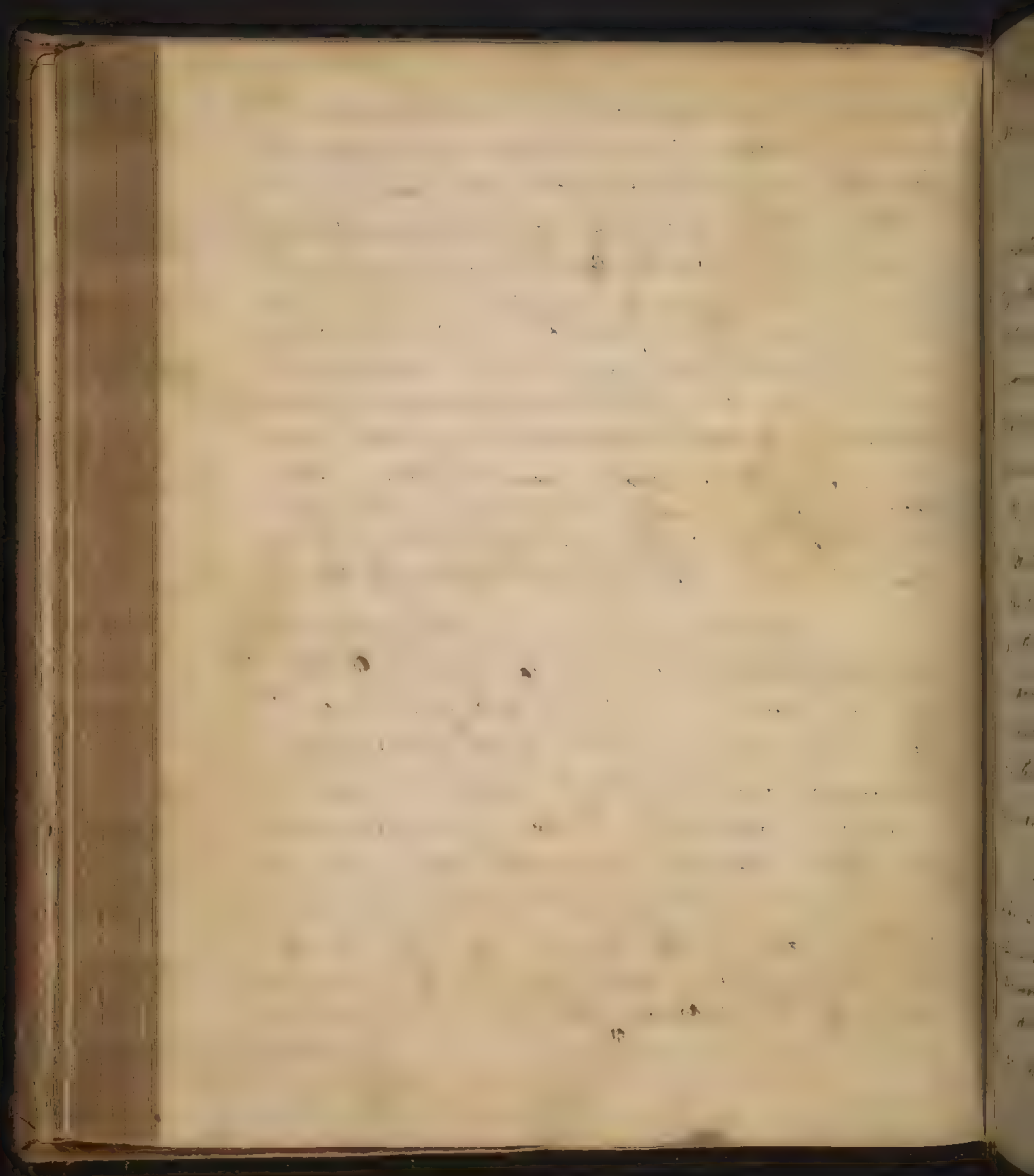
spend so much time in proving what appears so plain? But if
10, it must arise from your being unacquainted with the pre-
vailing Opinions of Physicians, many of which, as they
are held by some of the most reputable Physicians of Europe,
it is our business to examine with due diffidence. Besides
I think it absolutely necessary and a matter of the greatest
importance, that Students be made acquainted with the
different opinions of Physicians prevailing, especially of such as
are in every respect our Equals, and therefore undoubtedly
deserve our attention.

Now with regard to the Opinion of Dr. Senac, who,
as he holds the highest rank, is, I think, the Person of the
greatest medical Abilities in France. He (see De Meconch
Pag. 9.) after repeating many opinions that have been
proposed concerning the Causes of Intermittents, concludes
that inquiring after this Cause in the Nerves, is empty
speculation. There is a strong declaration against the
Opinion just now delivered, which we might think is
well founded. If you attend to what M. Senac here
says, you will find that it is expressly directed against what
Van Swieten has said - and every one that is conversant with
the disputes of Physicians, will certainly find great inter-
tainment in this dispute, subsisting between two
Physicians who possess the highest Rank in Europe.
However, I think there is but little in what M. Senac
says



says here - a great part of it is mere declamation - 96.
and many phenomena of the Nervous system, which he
speaks of as being so remote from sense, are as much
the objects of sense as any part of the Animal Economy,
and much more so than the affections and conditions of the
Bile, which he considers as the cause of Intermittents. No one
indeed will undertake to prove that the Nervous System
- modo (as he speaks) are concerned here - But we will
assert and maintain that they are primaries and especially
concerned - If Dr Senac had known how much the nervous
system is connected, and what a share it bears in other
diseases, I imagine he would not have said in this place
what he has ^{said} - However, the greatest part of it is indeed no
- thing but Declamation, below the dignity of a Physician.

after this I presume you will be greatly sur-
prized to find that Mr Senac at last comes into this
Opinion which he so loudly condemns (see pag. 26.
Chap. 5 - also other Examples in Chap. 6. Pag. 26 & 34.)
I am sorry to observe that even great men cannot
be always consistent. It plainly appears upon
the whole, that M. Senac first says on this sub-
- ject is not directed against the Opinion itself,
but only as it is the Opinion of Van Swieten;
for at last we find that in reality Dr Senac is as
much of the opinion that the cold fit, an affec-
tion



affection of the nervous system as either Van Swieten⁹⁴
or we are.

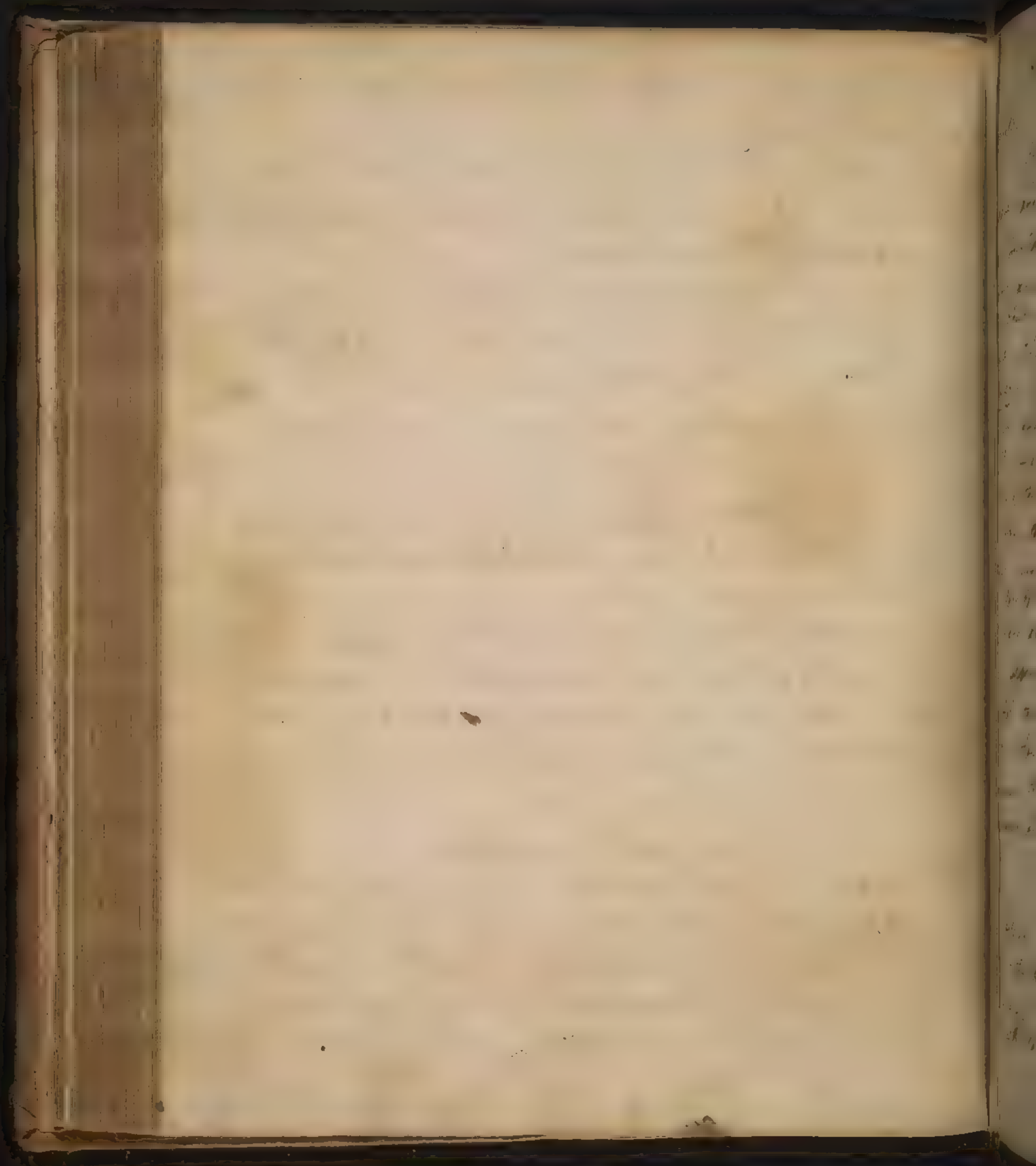
In considering the Proximate Causes of fever,
I have mentioned two Positions.

- I. That the cold fit is the part which principally constitutes the disease, and is the cause of all the other Phenomena that follow.
- II. That the cold fit is an affection of the nervous System.

The Arguments in proof of which I read you from Van Swieten - To his I would add another argument, which he also seems in some measure to imply, viz, That as the cold fit especially affects the motions of the System, and as these are only performed by Muscular Fibres, which depend on the energy of the brain, consequently these motions must depend on an affection of the Brain and Nervous System.

Now notwithstanding all this, still we find in the works of Boerhaave and Van Swieten nothing but morbid matter spoken of, as the Cause of fevers, Lentor and acrimony, their Resolution and Expulsion &c; altho even with them these general Principles above mentioned, are apparently so manifest and established.

Next

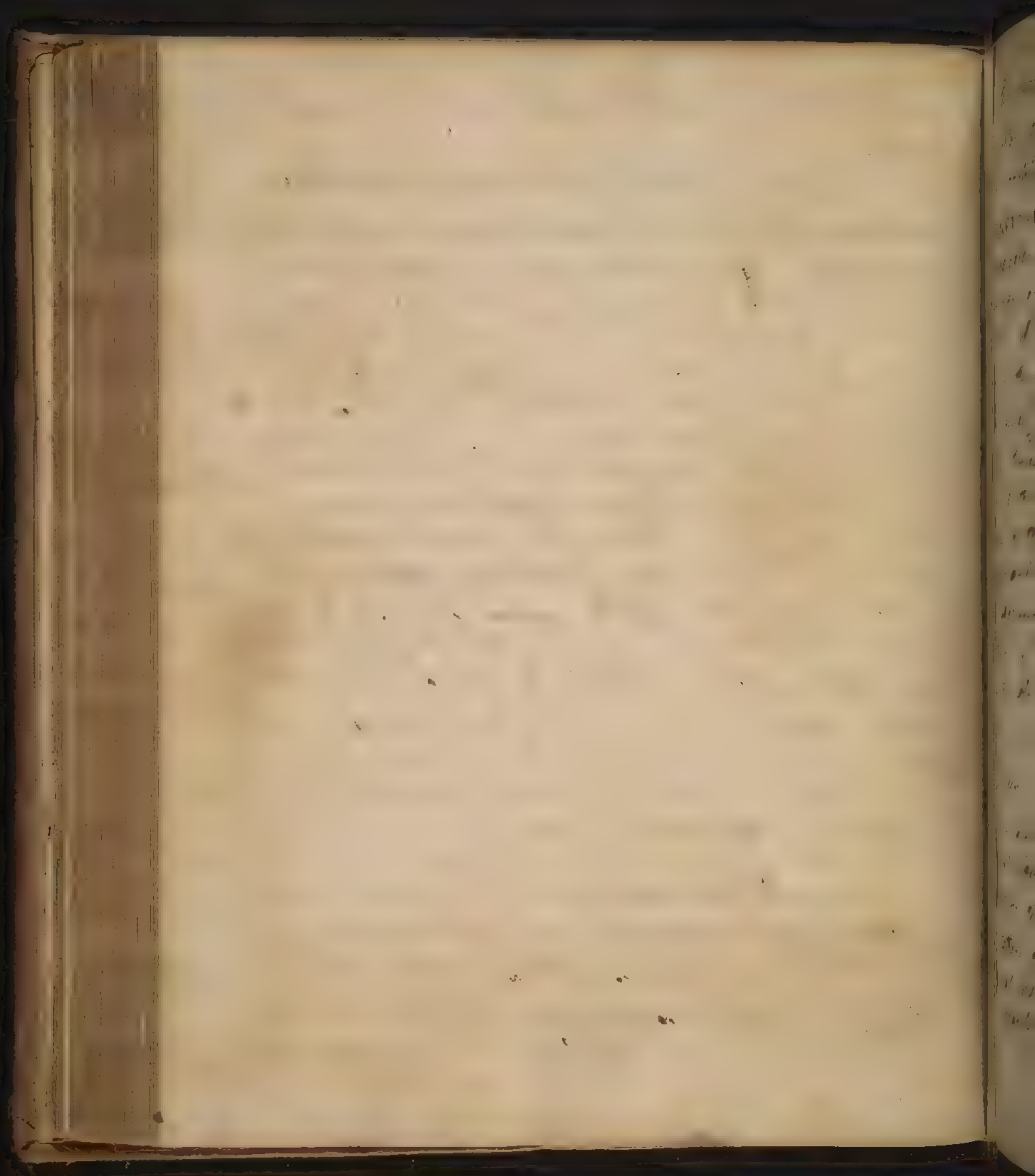


98

Next we are to consider wherein the cold fit
consists.

In the first place, I here agree with Dr Brown
-have, and say with him that the cold fit is owing to
an *Imbecilla Liquida Nervosa*, or, as I choose to use a
more general Expression, or one to the same purpose,
but which does not respect or seem applicable to any parti-
-cular Theory, I rather say a Debility of the Nervous
Power. I think that the ~~debility~~ ^{debility} of the
system, and insensibility which in many Cases is so remark-
-able, manifestly shew that there is present at the begin-
-ning of the cold fit a Debility of the Nervous power. And
this from the paleness of the surface, shrinking of the body, &c,
which imply a diminution of the Powers that propel
the blood to the extreme Vessels, appear especially to affect
the heart and arteries. I say then that the cold fit of
Fever begins with a Debility of the Nervous power;
and that this is the Cause of all the Phenomena that
follow. How we are to explain this, and shew in what
manner they are connected, is not at all obvious; and
here begin our difficulties in Theory.

We can only refer it to a general Law of
the System, which, however, is very well established, and
is shortly this, that from the Nature of the Animal
Economy, whenever a deviation from the natural state
of health takes place, there is a tendency, produced
by



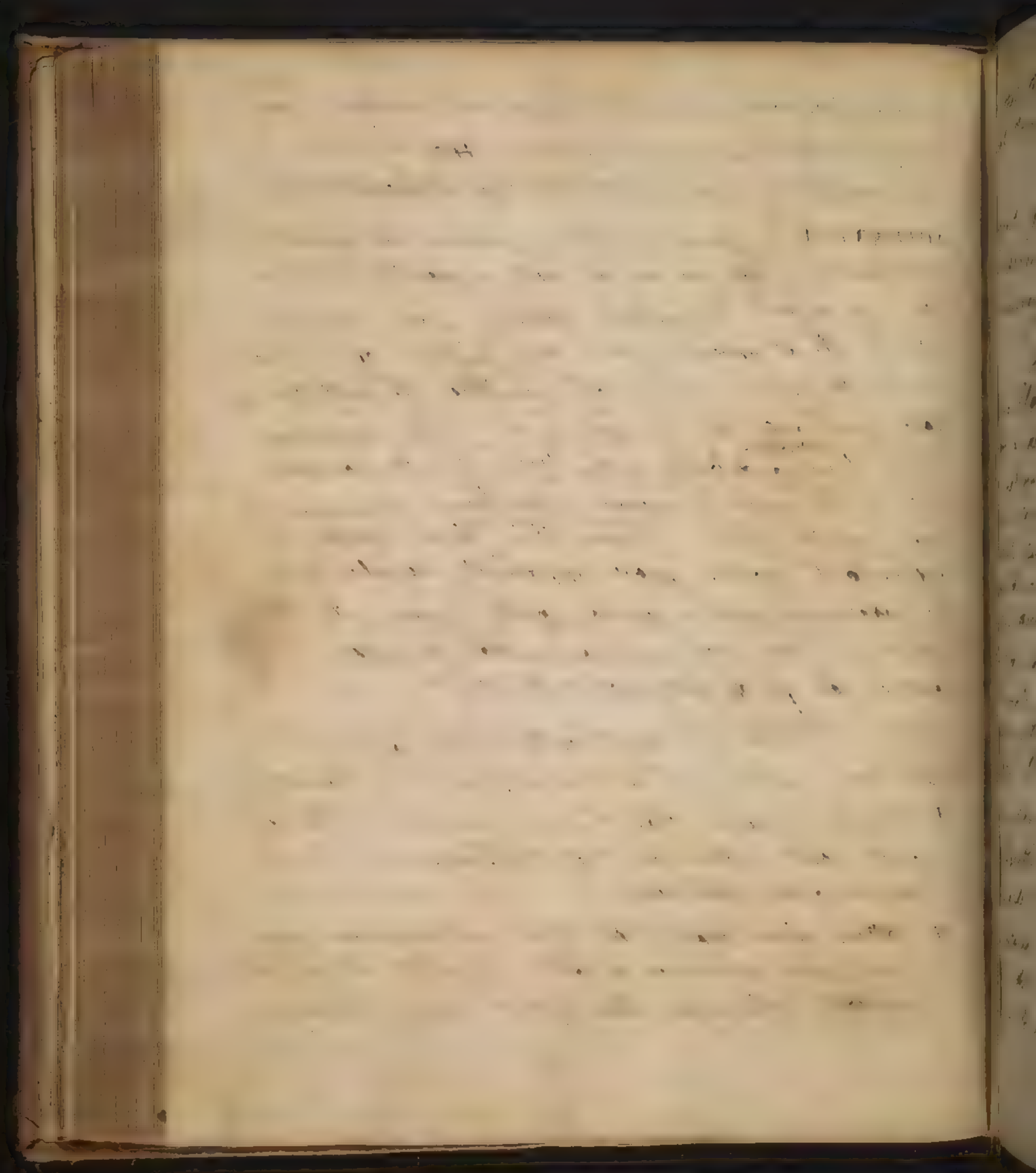
99.

by this deviation, and after^{ward} an actual exertion of power
to restore the System to its natural healthy state. This
Law constitutes what is called the *Lex Medicatrix* or
ΑΥΤΟΚΡΑΤΗΑ, so famous in Physic ever since the days of
Hippocrates (Those who are not wholly acquainted with this
Law may consult Dr Gaubius's Pathology from Sect. 633. to
640.) We at present assume the Existence of such a pow-
er in the system, as universally admitted. We shall there-
fore give only this example of it. That whenever any
cause tends ^{to increase} a debility of the Body, it is the consequent
Effect of this power to produce a reaction, and increase the
Energy of the System. Hence it is that Sedative and
Refrigerant Powers prove apparently stimulant, viz,
by producing such a reaction of the System. And this,
I think, is the most rational method of explaining
how the cold fit of fever produces the hot fit.

But this power of the System, of which we
have been speaking, has been explained in two ways.

- I. It is said by some, that it is an operation of the rati-
-onal Soul, independant of Mechanism. This is the
Doctrine of the Stahlians.
- II. Others assert that it is the effect entirely of one corpo-
-real part acting on another. Or that the one state
necessarily follows the other from Laws of Mechanism,

i.e.

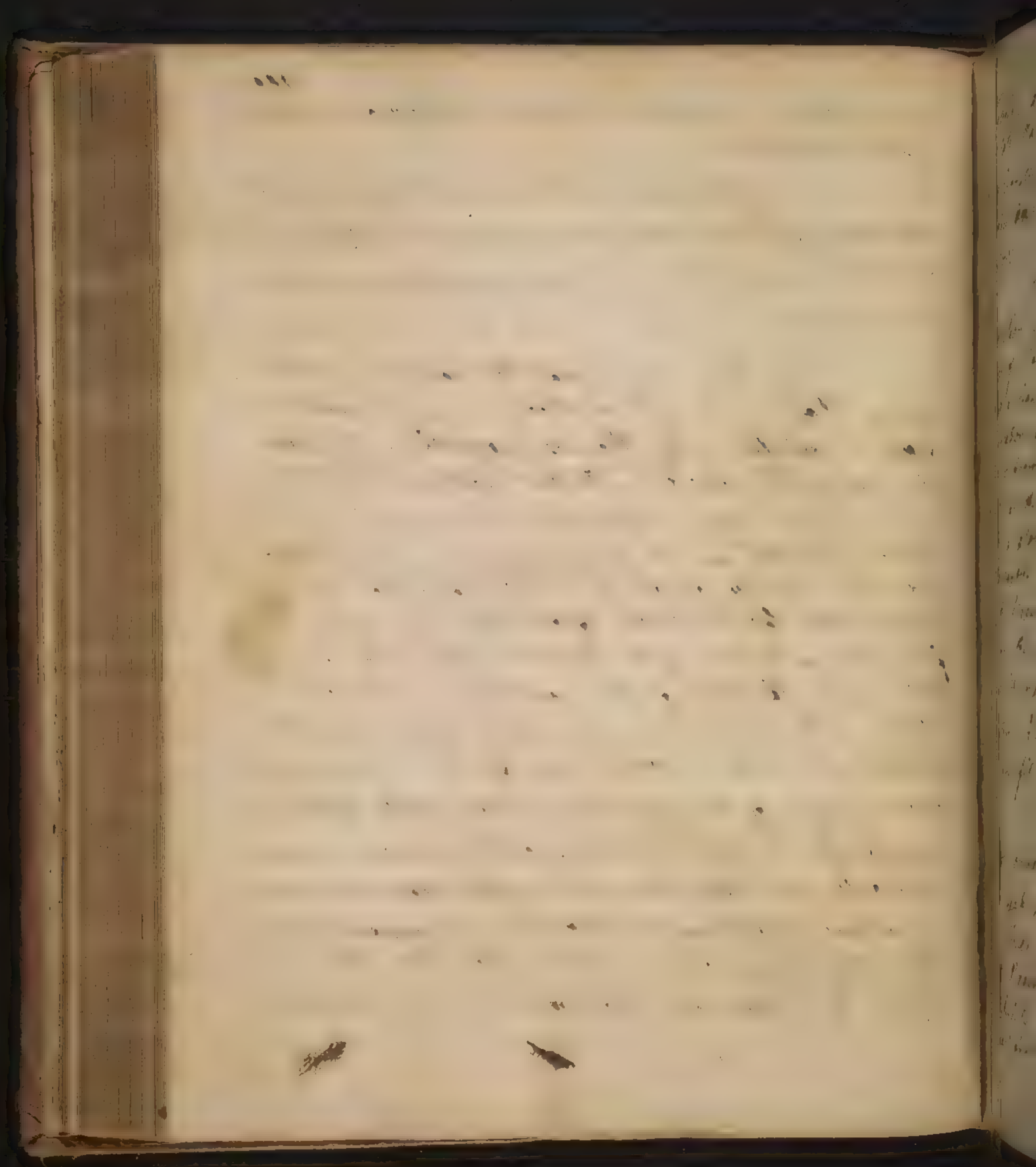


100.

i.e. that their succession depends entirely on mechanical Principles -

With regard to then I shall only say at present, that the last is to be enquired into always and carried on as far as we can go with any precision or accuracy.

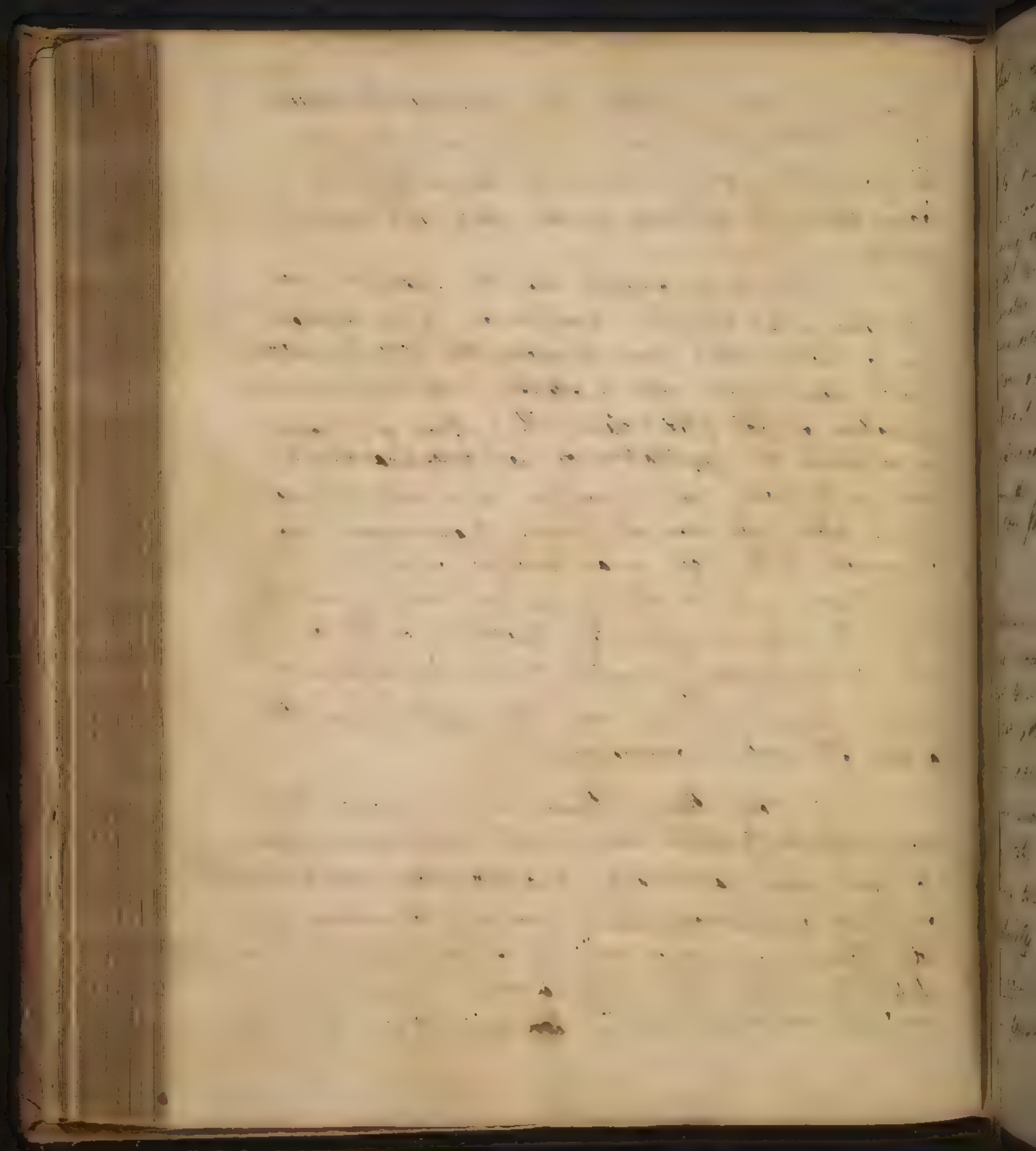
First, then, I say that the extreme vessels being Elastic, when in the beginning of a Cold fit, from a debility of the Powers propelling the blood, it is not pushed forward into the Extreme Vessels, they must certainly suffer a Constriction, even from their Elasticity; But this, you will find, insufficient, and will be under the necessity of taking in also somewhat else respecting their Constriction, from their muscular power; for if the contraction of the extreme vessels arose only from the simple Elasticity of their coats, they would be immediately filled again when the action of the heart was restored - But this is not the case, for the Thirst, dryness, determination of the surface, &c., which still continues manifestly shew that the Contraction remains a considerable time after the action of the heart and arteries is restored perfectly in the Hot fit - It appears, then, that the Constriction which takes place here is owing to a spasmodic Contraction of the extreme Vessels



Vessels - and this constitutes the Spasmus Periphericus of late Pathologists (Nitzsch) by whom and many others this Constriction taking Place in the Cold fit of fevers is looked upon as the cause of the hot fit which follows -

It is to be observed that this Spasmodic Constriction is at any time brought on by the application of Cold, which seems to affect the body by producing a Constriction that is attended with this peculiar Sensation of Cold (Vid. Celsus Lib. 3 Chap. 9.) Now as we see from the Application of Cold to a particular part, as the hand, that a reaction is produced to the part, viz, a glow, with heat and redness, I can imagine how Cold applied to the body may produce a general reaction of the Brain - And as the Constriction that is produced is on the extreme vessels, the Reaction of the Brain will be particularly directed to the sanguiferous system, viz, the heart and large arteries; and thus a hot fit will commence.

Now, then, I think we have got a Theory that connects together the several Phenomena of fever. To speak more particularly, I consider the remote Cause of Fever as a poison, which weakens the energy of the Brain, or induces debility on the system. This debility shews itself in the weakened action of the heart and large arteries, in consequence of which the
 blood



102.

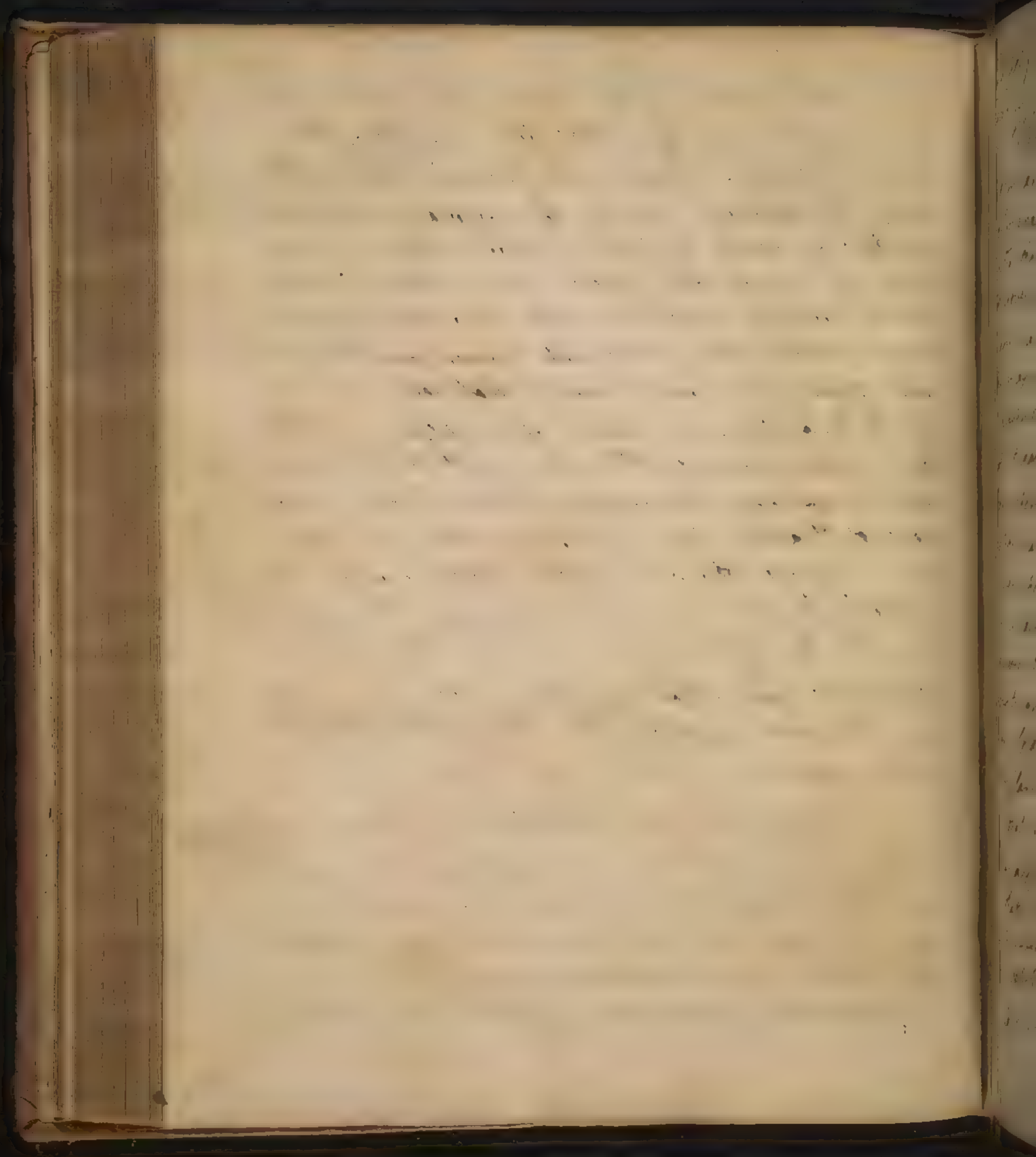
Blood is not propelled with its usual force, and therefore in less quantity to the extreme vessels. Hence they are contracted both by their elasticity and muscular power, or vis Vito. But more particularly they are spasmodically affected in consequence of the sense of cold, owing partly to the want of the determination of the blood, and partly to that of the Nervous Energy to the extremities, which prove a stimulus to the Reaction of the brain. And this reaction being determined to the heart and arteries, gives an increased action, or hot fit, which subsists as long as the stimulus exciting it subsists, that is, until the Spasm to the extreme Vessels is removed, and their proper action restored; as appears from the flowing of sweat, and the restoration of secretions formerly interrupted.

This Doctrine seems to recommend itself by its Coherence - The only difficulty is to explain the mechanical Connexion between the several parts of it. But not to mention that this difficulty is not so great as what attends other Theories, and that the merit of ours does not depend upon the explanation or Connexion of its several parts must be admitted, but, (as I take it to be the case) upon the several parts being true in fact. Thus I have given proof of Debility in the beginning; this followed by a ~~Spasmodic~~ ^{Spas}modic Contraction of the extreme vessels; which we found almost constantly brings on a hot fit, or

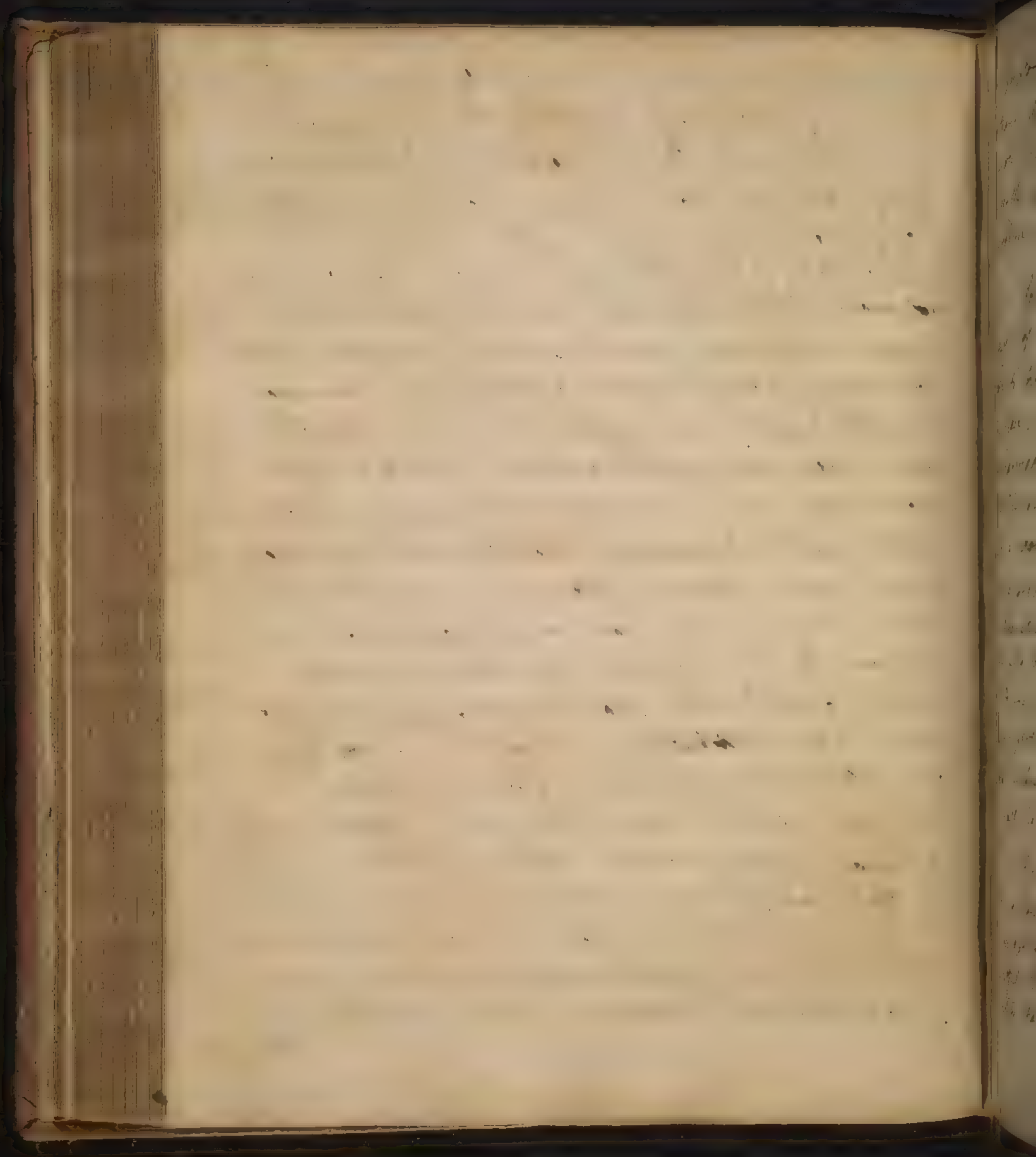


or increased action of the heart and arteries. Therefore I say it is manifest that fever consists of three parts, Debility, Spasm, and Increased action of the heart and arteries - and as these regularly succeed one another in point of time, I consider them in the same order as Causes and effects - and altho we should not be able to explain exactly how their succession comes about, that is, how such Causes come to produce such effects, yet I must assert, that the more distinct knowledge we have of the different States thus succeeding one another, we shall be the more able to manage, and properly to limit the several parts of Practice, than we should otherwise have been! I consider this as a doctrine that is sufficiently evident to me; but I would have you to examine it with the utmost rigor - and to this purpose I shall give you what assistance I can, by mentioning the several difficulties that present themselves, which might be objected to my theory.

First, with regard to the three States, of which I said fevers consisted, the two last, the state of Spasm and hot fit, are the most evident and universally observed, so that these certainly do take place - But the Debility is not always manifest - Accordingly Dr Hoffman's System goes no further than the Spasm and



and not fit, not taking in debility at all - And ¹⁰⁴
indeed in two Orders of Pyrexia, the Hemorrhagic
and Phlegmasia, there is no debility at all, but only
Spasm and overexcited action - So that perhaps Dr
Hoffmann's system may be right - Accordingly it is
objected that, if the existence of a previous state of debility is
not proved to be universal, but it be granted that
Spasm arises here from something else than debility,
why may it not be so in proper fever? This may
at present give some difficulty, but we shall find
that it does not affect us much - I shall hereafter
show, when we come to consider the Causes of Infla-
mation and Hemorrhagy, that the production of spasm
etc. even here is to be explained in our system -
There is always a previous debility or something
analogous to it - However, after all the objection
amounts only to this, that Pyrexia depends universal-
ly on Spasm, ~~but that there is a difference in the Case~~
of Inflammation and proper fever; and though it is
true that a debility does not take place in Inflammation and
Hemorrhagy, previous to the Spasm, yet this does not
say that debility does not take place in fever - in which
I will undertake to prove that the Spasm always arises
from debility; for, I say that, debility is always present
in fact when the Phenomena show it - Such as
the



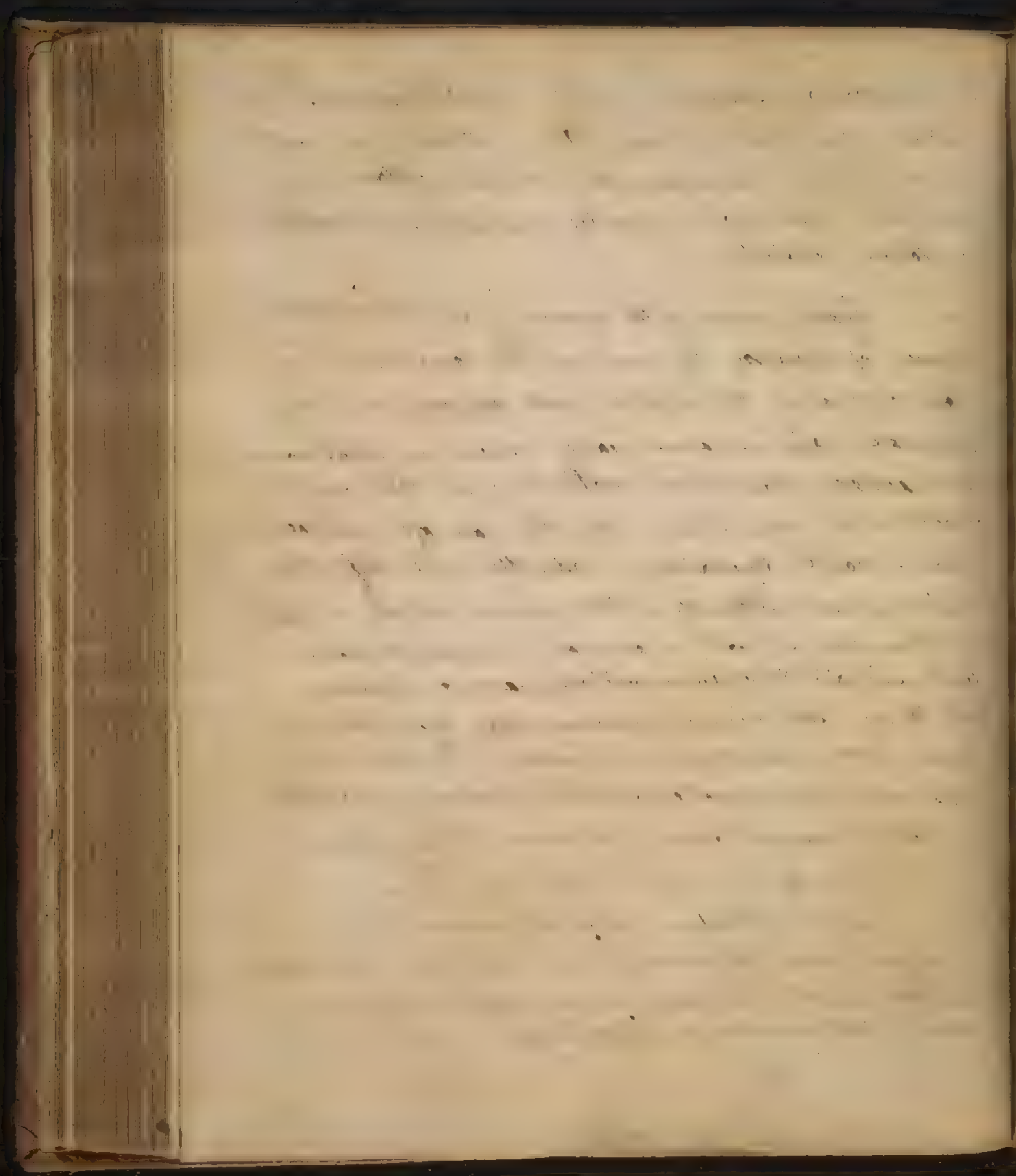
105.

the Symptoms of Languor, Lethargy, debility of the voluntary motions, Anorexia, Delirium, &c. - Moreover some of the remote Causes, and perhaps the most part of them, are evidently Causes of a Septic nature, or such as tend to produce debility -

Again, supposing the Causes of fever to be direct Causes of Spasm, they must at the same time be supposed to produce the debility which appears so evidently to take place: And we cannot easily perceive in what manner the Spasmodic state should exhibit first then appearance of debility and immediately after the state of increased action. Such a double Operation is admitted with difficulty - But a greater difficulty still remains, which is, that the Operation of Cold is commonly supposed to produce fever, and said to be an immediate Cause of Spasm - But to me nothing is more obvious than that Cold in producing fever, must operate by inducing Debility - and I expect when the Operation of Cold is properly understood, we shall be relieved from this seeming Embarrassment -

First, then, I presume that when Cold acts alone upon a sound and entire body, and produces Pyrexia, it is always of the Inflammatory kind - and to me it is very doubtful whether Cold can produce permanent fever, unless debility has preceded, or topical affection intervened -

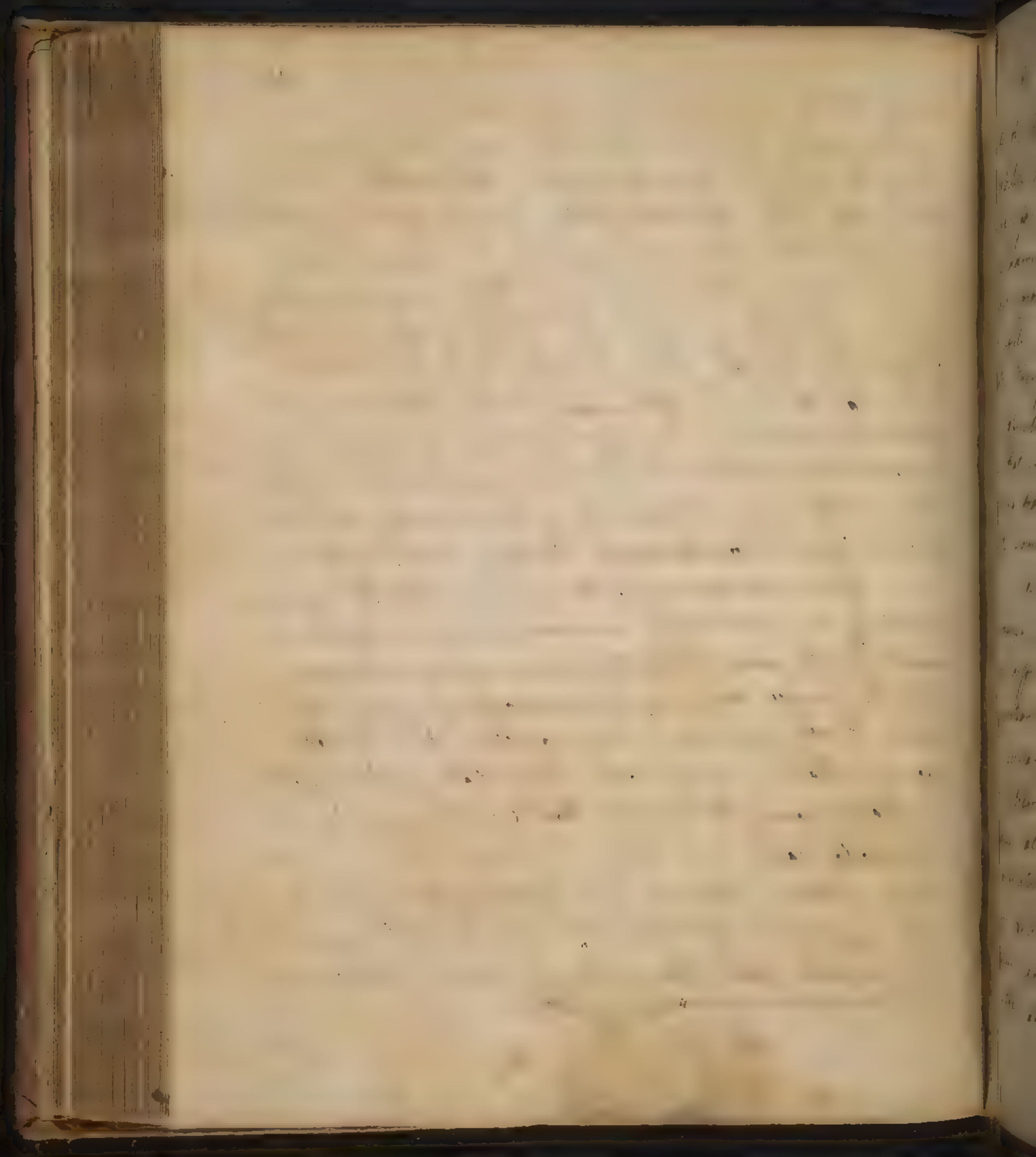
Now



now if this be so, you will observe that, like the argument drawn from Inflammation and Hemorrhage, the case of the cold fit does not apply - And further, if it be true, that cold does not produce a proper fever, unless it be applied to the body already subjected to causes of debility, i.e. previously weakened; it will rather concur in establishing our Theory - Now the effects of cold are hardly considerable, except when it acts on a body previously weakened; for we are often exposed to cold without any bad effects - Every one is sensible that fever is hardly ever produced by exposure to cold, even considerable vicissitudes of it, unless circumstances of debility concur, as from evacuations, Drunkenness, Senility, Convalescence, &c. - From this analogy too we infer that, the causes of fevers are commonly sedative powers, or of such a nature as to produce debility; because when introduced into the body they are remarkable for rendering us liable to the injurious action of cold - And therefore we say, that in most cases, when cold produces fever, we have reason to believe that Contagions and miasmata have been taken in, but remain in the body without showing any effects, until excited by the application of cold - We shall hereafter render it probable that Miasmata may concur with cold in producing fever when not expected.

H

H



It often happens that Contagions are introduced into the body, which, though they do not produce a degree of debility alone sufficient to give occasion to the Spasm necessary for establishing fever, yet induces such a state as easily admits of spasm, and the consequent circumstances of fever, from the occasional application of a degree of cold that would otherwise have had no evident or considerable effects. Therefore the effect of Cold in producing fever, is no objection to its being founded in Debility. Since we find, that in order to its having effect, it is commonly necessary that such Causes co-operate as evidently act by directly inducing debility.

But I shall carry the Objection still farther — For though I would make use of the above fact to obviate every difficulty, viz. that Cold does not take off the Supposition of previous debility, but that this is commonly necessary to its taking effect; yet it may be alledged that, extreme cold applied does sometimes act by itself and produce all these symptoms which we have imputed to debility. This we will allow; for cold in many Cases acts as a debilitating Cause, or powerful Sedative, and in certain Circumstances destroys life altogether, and this without producing any Spasm to act



act as a Stimulus - But abstracted from this circumstance, I say that Cold in a certain degree (short of that which induces death), may produce circumstances of debility that take place in the beginning of Fever - But it is not to be said to do this by operating immediately in producing Spasm, but as a sedative power - And also after this, by the continuance of its application - It may produce Spasm so as to give fever; but it is not probable that Cold can support a permanent Spasm, unless debility had preceded.

Moreover, allowing that the direct effect of Cold be to induce Spasm, it does not alter our Doctrine; for this Spasm must be supposed in part stimulant and in part sedative; and according as the one or the other predominates, or in fact as the symptoms of debility and increased action are in greater or lesser proportion, it will give us different Indications.

Therefore it still appears, that the Doctrine we before laid down is good, that the causes of fever in this certain succession produce the three States, debility, Spasm, and Increased action of the heart and arteries.

I think we have discovered that the beginning



beginning of fever is laid in a debility induced on the system - and that from hence is produced a spasm on the extreme vessels, which is the cause of the hot fit. I think it is established in fact, that in every fever these three states take place in different Proportions, at different times, and with different Proportions of duration, viz, Debility Spasm, and increased action. It is however a fact supported by what our Lawyers call a circumstantial proof -

What we advance is only an addition to Dr Hoffman's system, viz, that a debility precedes the two stages of which he makes fever consist. It is to be observed to us that a pyrexia arises from Inflammation, when there is no Debility - and that Cold appears often to be the only cause of fever; and that it is so by inducing immoderately a spasm on the Extremity Vessels -

With regard to the first of these Objections, It cannot be fully disputed here; but we shall hereafter show, that in Inflammation a state analogous to debility, and attended with a similar Operation, does take place, and is equally efficacious in producing Spasm -

With regard to the other Objection, I say that Cold has not these effects (of exciting proper fever) except



except in bodies previously debilitated. Whoever understands the operation of Cold, as I have formerly delivered it, will understand this. It is not found that the degree of cold applied, or the vicissitudes of it, that affect us, when fever is excited by it. But the most common observation is, that some weakening power, some error in the Non-naturals, or such like, has taken place before, with which the concurrence of Cold has induced fever. Further, suppose no such trespass in the Non-naturals has taken place, and yet fever is excited, we may still have recourse to Miasmata or contagious matter, or a Sedative Operation, introduced or produced in the body, which had the greatest share in the production of fever, being favoured in its effects, or excited to action by the application of Cold.

Moreover, in the last place, supposing none of these to exist, but that Cold operates alone; we have yet a reply, and need not give up the Universality of a Debility taking place, previous to the Spasm, in every proper fever. For cold itself may operate in that way. It may in certain circumstances have the effect of inducing a previous debility, and in consequence of that a Spasm - so that a proper fever, agreeable to what we advance, may arise from it. Therefore we think that none of these Objections have any weight, but that fever in fact consists of the three parts above mentioned.

W



It might be desirable to advance a step further, and explain the foundation of the connexion between these several States. But here I acknowledge myself, and I shall not think it safe to enter far into it at present. With regard to the connexion between Spasm and debility, to show how the former follows the latter, we might say that the debility, by weakening the action of the heart and arteries, and thereby abstracting the blood from the extreme Vessels, gives occasion to their being thrown into a Spasmodic Contraction. But after this, in order to say that the Spasmodic Constriction produces the Reaction, we must have recourse to the *Vires Naturae Mediatrices*, by means of which, the Spasm proving a Stimulus to the System, produces the necessary reaction. This follows in consequence of an applicable Law of the System, on which the *Vires Naturae Mediatrices* depend. It is enough that we know this Law is universal, to refer to it. I might here say that a sense of debility is a condition of the same kind, and from the same Law necessarily brings on a Reaction. But this would seem more strange - and to account for it on Mechanical principles is difficult. It would appear that the Reaction is produced partly by Debility and partly by Spasm; but the debility produces it by the intervention of Spasm -

As to the other questions that might here occur, as how the increased action of the heart and arteries takes



takes off the debility and Spasm which were its cause. We must refer them to an after Consideration. We conclude however, that fever consists of these three states, debility, Spasm, and increased action; and upon such supposition proceed to consider the Symptoms belonging to them.

We begin with Horror, Tremor and Rigor, which is considerable a Part of the Cold fit of fever, that some Physicians have considered them as constituting the whole of the cold fit. These Symptoms are upon other occasions the consequence of External cold applied to the body; and therefore they might be considered as the effect of Cold only; and that Cold in the beginning of fever is always necessarily preceded and accompanied them, so that they might be thought to impart nothing but a sense of Cold. But we know that other causes, besides cold, bring on this Tremor; as Fear, which indeed frequently brings on a sense of cold also. But I think it often brings on Tremor in a greater degree than it does Cold; so that it must be supposed to operate in some other way to produce the Tremor, than by first inducing Cold. But however this may be, it is more proper that we consider more particularly in what Tremor consists.

Physicians have supposed Tremor of two kinds, Convulsive and Paralytic. With what propriety they have considered it as Convulsive, I shall not at present enquire. But I am convinced that of twenty Cases of Tremor that



that occur, nineteen at least are paralytic, weakness or atonia: and in this light I consider it in the present example, viz, as the effect of debility - That it is so, the observation of every one will suggest proof enough - Audubingly Dr Gaubius has with great judgement considered it as a symptom of Palsy or atonia; whereas Sauvages has improperly placed it among the Convulsive disorders - I consider it in Gaubius' view, as an effect of debility; for we may observe that it occurs when we attempt to move a member, but when well supported the Tremor does not appear - The meaning of this is, that the Tremor is an effect arising from a constant alternation of the debility and the effort of the will - and if any body will consider it more particularly, I think they will plainly perceive it to follow from thence - It is to be observed here, that there are many instances of motion produced by the effect of the Energy of the Brain, without any consciousness of the concurrence of the will to produce such motions - Thus the Chattering of the teeth, or Tremor of the lower jaw, lies between the tendency of it to fall down, from its weight, and the constant effort from the Energy of the brain to raise - The weight of the Lower jaw is counterbalanced by the Levatorius muscles - If these are enervated by disease, or in sleep, the Lower jaw falls down - Therefore in the case of debility there is this tendency of the Lower jaw to fall down, and this along with the constant effort of Nature to raise it, gives the Tremor - This then, infers a constant effort of the System, while the Tremor remains, or



or some reaction in the state of Debility - Therefore in this light I would look upon the Tremor that occurs in the cold fit of fevers, viz, as a Mark of the reaction already begun - That is, Tremor is not so purely a mark of debility as might at first have appeared; but this is mixed with a constant endeavour to support the tone of the muscles. This is reasoning in Theory, but I shall here, as in all other cases, establish my conclusions in Fact.

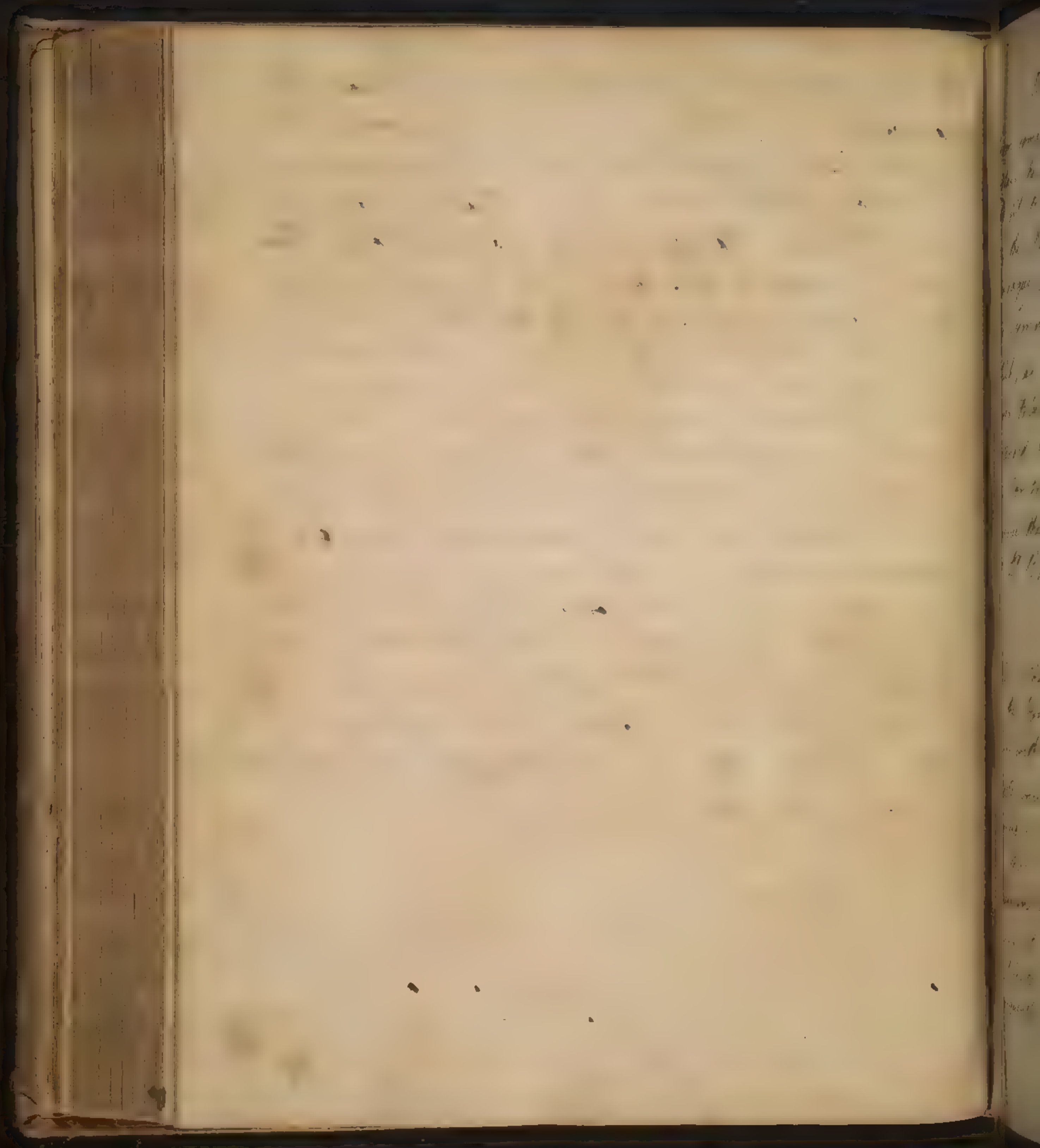
I say that Tremor is a mark of the Reaction; for as the Tremor arises to a greater degree, the reaction proves more considerable, - the Spasm is more quickly overcome, and the Paroxysm sooner admits of a solution - This is equally agreeable to observation; for we always find in the beginning of a Paroxysm of an Intermittent, the Tremor is more considerable than in the beginning of a continued fever - and always in proportion to the Tremor is the reaction more violent, and consequently the Febrile Affection of less duration - No body has marked more facts to this purpose than M. Senac (see Page 20 of the second Prob. Intermittent Remittent.) He says, that when the Tremor and Rigor occur in the beginning very violent, the fever is certainly to turn out an Intermittent, and the Paroxysm to admit of a quick solution -

Also take this further observation, that the horror tremor and rigor are always most considerable in those Intermittents that have the shortest Paroxysms, viz,



viz, most considerable in Quartans, less in Tertians, and
least of all in Quotidians (see Senac's Observations & this
purpose, meeting accord with the Circumstances of Tremor,
and Rigor that attend it: Pag. 23.) What he means here
by his "Validior Paroxysmus" is plainly a longer Parox-
-ysm - If what he here says be true in fact, as I could
show it from numberless other Authorities, it makes the
matter plain - Besides in continued Fevers, when they are long
in duration, there is no appearance of Tremor and
horror at the Exacerbations of critical accessions, that
do give a solution to the disease, are commonly distin-
-guished by some extraordinary horror and Tremor - So that
it would appear that the Horror and Tremor are not to be
considered as purely Symptoms of the first Operating cause,
the Debility, but as the consequence of the reaction
of the System that follows to resolve the Paroxysm:
And from the very condition of these (the horror and Tremor)
we are enabled to judge of the condition of the disease
that is to follow - This is of great Importance in distinguish-
-ing fevers - Thus, then, we conclude

But



But still there are difficulties that seem to arise from some words of Dr Boerhaave (vid. Aph. 749.) I am certain he has here chiefly in view the circumstances of the cold fit, to which his *Symptomata pejora* are to be applied, viz, the Nausea, Debility, &c. - and the "*Horor* *prout* *majora*, *pluraque*, *inimul* *exfebris* *pejor*." ought to be confined to the symptoms of debility - The Languor and insensibility which, as they are in greater degree, certainly show a worse fever to be coming on - But the same is by no means to be extended to the Horror, Tremor, and Rigor; nay with these the contrary is manifestly the case - It was necessary to observe this, lest you might be led away by any theory of Dr Boerhaave -

And now see what he says elsewhere (Aph. 623.) - This must be understood as respecting the cold observed by the bystanders, but which is at the same time accompanied with horror or Tremor - In the end his words are, "*Peste incuniente frigus summum Pregrissa. Calor max* *=imus*." - authors on the Plague are not very accurate in their observations, so as to mark whether horror or Tremor occurs in the beginning of that disease when fatal - But I find it observed in one author (Peter Salius De febre Pestilente), that fevers of a very Malignant nature were frequently introduced with circumstances of very great cold,



that the Limbs seem as it were frozen - But at the
 same time ~~make~~ ^{mark} his Expression "dum Lewis horroradest!"
 Further, with regard to the Plague, I do not find Dr Boerhaave's
 Authority for what he here says - He never saw the Plague him-
 self, and therefore must have taken this Observation from au-
 thorities; and as for Van Swieten, his Commentator, the only
 Author he refers us to is our Dr Sydenham - But what he
 says does not support Dr Boerhaave - He indeed mentions some
 Cases of Plague as beginning with horror and Tremor, like
 an Intermittent, but does not speak of the Termination
 of these Cases, to say whether the Event was better or worse
 than in other Cases - And thought it should be allowed,
 that Tremor has sometimes brought on dangerous fevers,
 it only amounts to this, that after the Reaction began
 the Debilitating cause still remained and determined
 the Event of the disease - And in this way we are
 to explain the malignant Termination of warm Climates.
 I would refer you to later Writers, on the Plague,
 as M^r Chenier, whose Observations confirm the
 Doctrines we are delivering.

I go on to consider another set of Symptoms, viz,
 The Affections of the Stomach - These are in some degree
 so generally connected with fever, that there can be little
 doubt but that they depend on the same fundamental
 Cause



cause as the other symptoms, and are intimately con-^{118.}
nected with the general affection of the system in which
fever consists. -

To explain these symptoms Pathologists have ge-
nerally had recourse to some particular matter lodged in
the stomach and Duodenum, and giving an Irritation -
Indeed they have proceeded so far in this Opinion, as to say
that the whole of fever depended on such matter present
in the stomach and Duodenum - Even Hoffman has en-
deavoured to show that the cause of fever acts chiefly in this
Duodenum - It is hence that we find the bile so much
deemed as the cause of fever, both in the ancient and
Modern Writers - This matter deserves our attention -

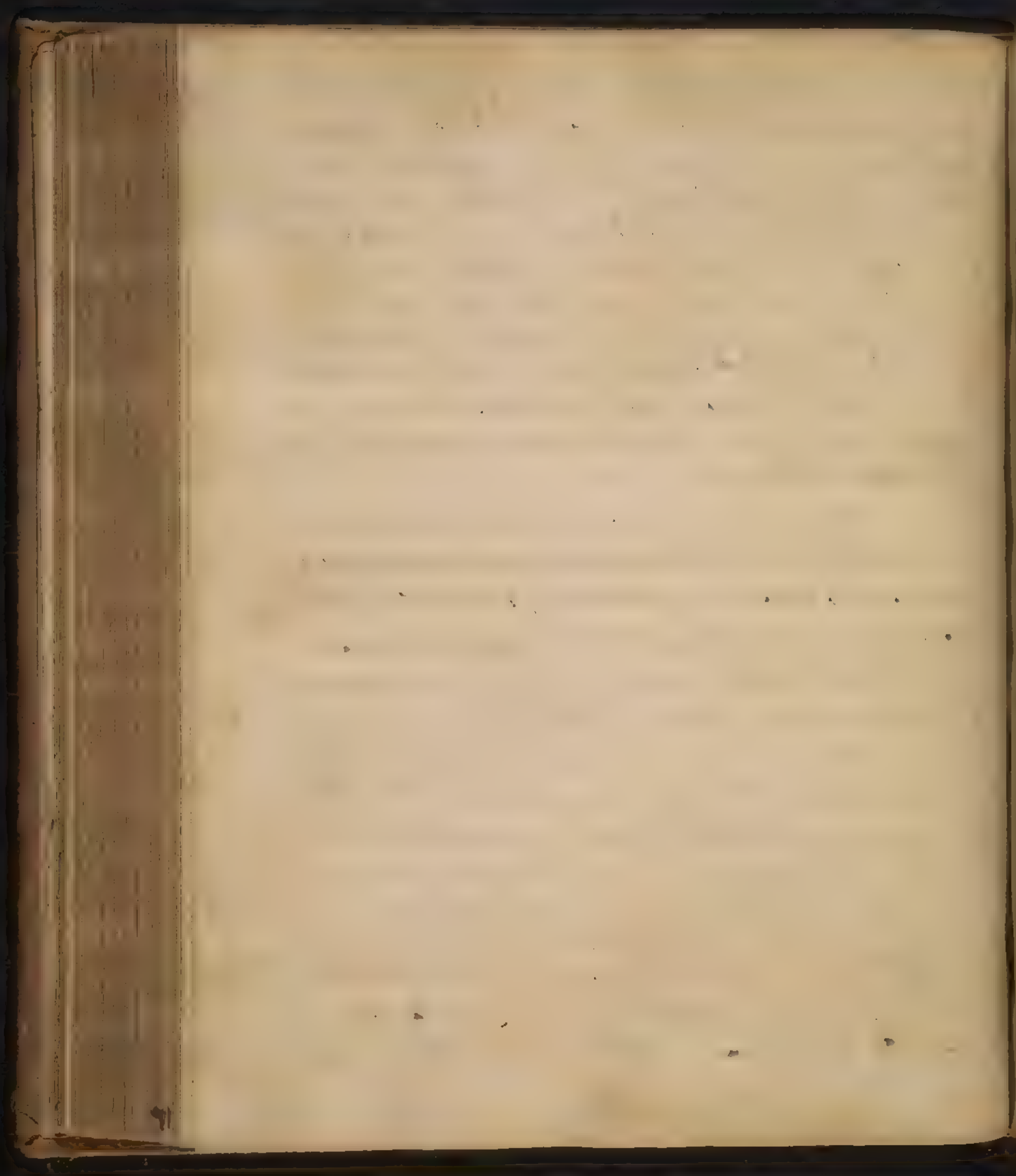
and in the first place - I say that the whole
of their Theories will be rendered doubtful from hence:
that we know very often symptoms of the stomach arise
from a Sympathetic Affection - ^{Observe} ~~attend~~ how often
Vomiting is produced from affections of distant and remote
parts of the system, without any cause, or particular
Irritation, being present in the stomach itself -
how may not the Nausea and Vomiting that occurs
in fevers, be accounted for in this way? Every
Body knows that when a Deliquium Animi is
introduced, as from bleeding, the person is at the same
time



119.

time is immediately affected with Vomiting - Now here there is no particular affection of the Stomach to produce Vomiting - But it arises from the general affection of the system, or debility that is induced - Hence, then, it might be said that the Vomiting which occurs in fevers was owing to the same cause - And indeed an obstinate Vomiting is a symptom of fever, which alone with other marks demonstrates a great degree of Debility - But the matter must not rest here; - for the cold fit of fever it is evident that the Vomiting does not depend on the general debility alone, or an affection of the system in general, but on a particular state of the surface of the body.

Of the mutual connexion between the stomach and surface of the body, there are many satisfactory proofs, which are laid down by authors, particularly by Dr Hoffman, in his *Sympathia Corporis Humani* - Now, that here the Vomiting is owing to a Constriction on the Surface; in proof of which observe some particular circumstances that occur in fever - The fact is this, that whereas the vomiting comes on in the cold fit, it goes off as soon as the hot fit comes on, or at least as soon as the sweat begins to flow - Therefore I conclude that the Vomiting depended on the Constriction of the Surface - For we find that it ceases as the determination to the surface of the body is fully established. This is beautifully illustrated by a particular fact from Dr Sydenham - He tells us that in the beginning



of the Plague he was often disappointed in the use of Sudorific Medicines (which he administered for the cure) because they were always evacuated by Vomiting, which often attends the beginning of that disease - But he says this was not the case after such time as a sweat had naturally broke out in some degree - Therefore he found it necessary in order to abate the Vomiting so that his Diaphoretic medicines might be retained on the Stomach, & make use of Blankets &c. in order to restore the motion of the Blood to the surface, and in some measure relieve the Vomiting before he gave his Diaphoretic medicines, otherwise they would be ejected. (see his Prop. Integri) Therefore I say that the Vomiting here depends on the constriction of the Surface, though it may also in some measure depend on the general debility of the system.

How Vomiting is produced from hence, it is not easy to explain - Observe however that these Causes first produce Nausea.

In prosecuting the Theory of fever I avoid every thing that can be called Subtile - but proceed entirely on what is established in fact. ---

I think it manifest from the Phenomena of fever, that it consists of three states, viz. of debility, Spasm, and increased action of the heart and arteries, which, as they thus succeed one another in a regular Order in point of time, we.



121.

we suppose to proceed in the same order in a series of Causes and Effects. - I was considering the Symptoms more particularly, with a view partly to give an Explanation of them, and partly to illustrate what we are maintaining with regard to the general Subject.

First, as to the horror, and especially the Tremor. This I look upon as arising from the effects of the debility and constant effort, or reaction, of the System, alternating with each other - and to this purpose I observe, that the more remarkable the Tremor is, the stronger and more vigorous is the Reaction that follows - and on the other hand, the less the Tremor is, the more the fever is disposed ad Diffiniturritatem (as M^r Sanar speaks) - We shall meet with many things hereafter, to illustrate and prove the same -

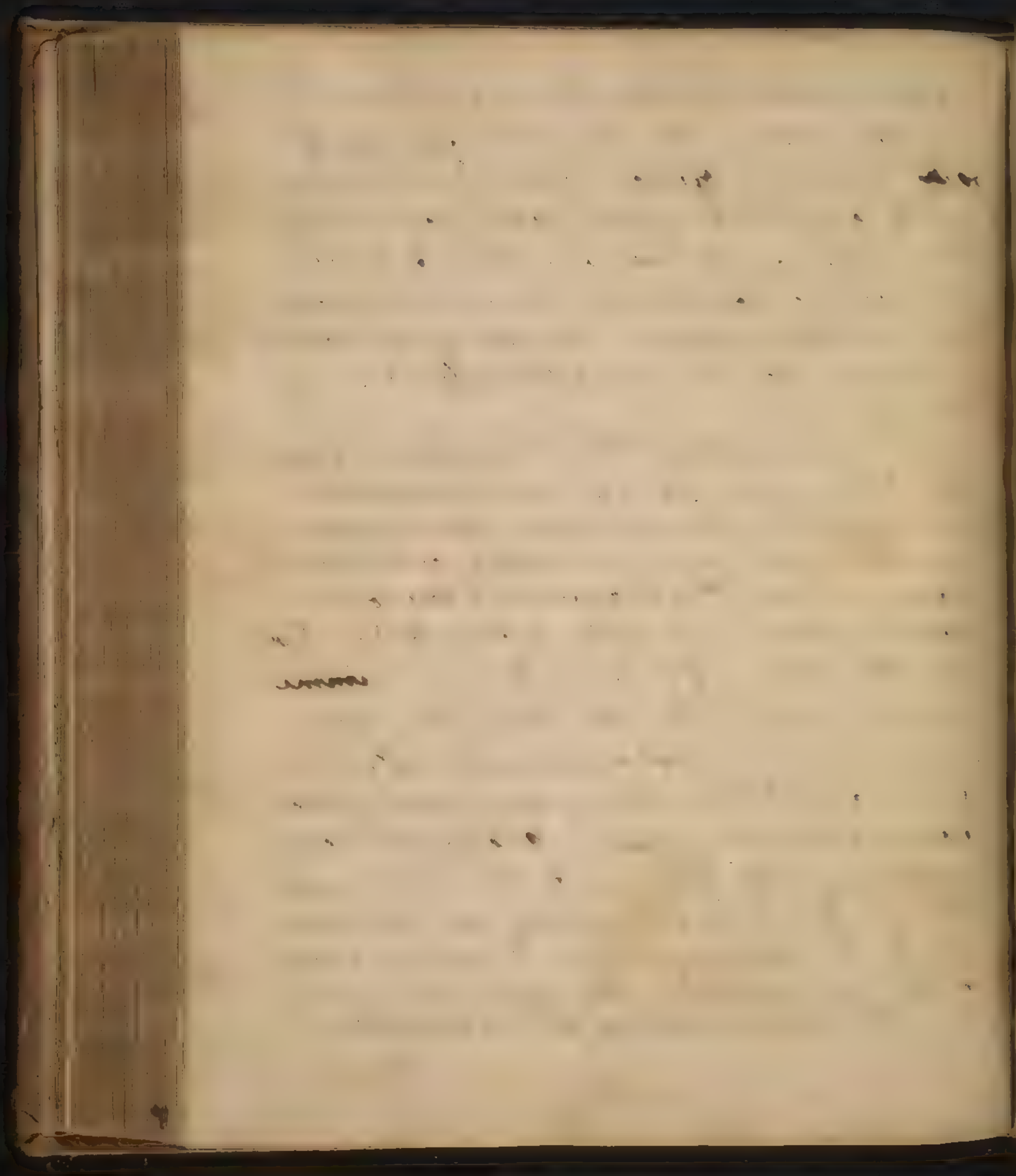
We were proceeding to speak of the affections of the Stomach, which we presume to be connected with the general Condition of the System that takes place in fever. I say these Phenomena, relating to the Stomach, are by no means to be looked upon as owing to any particular affection of that Organ - Authors indeed have always been ready to suppose in these Cases (wherein vomiting occurs) some acrimony or irritating matter applied immediately to the Stomach - This indeed they have recourse to in all Cases, where such affections of the Stomach occur - By the Supposition of irritating matter being always necessarily present in



in order to produce Vomiting, &c, is overthrown by this - that we know the Stomach is often affected ~~both~~ by general affections of the System, and affections of particular distant parts -; for we know that a stroke on the head, or a sprain of the feet, will produce a Vomiting, as well as Tartar Emetic taken into the Stomach - In this way the Stomach is frequently affected sympathetically, as we may call it.

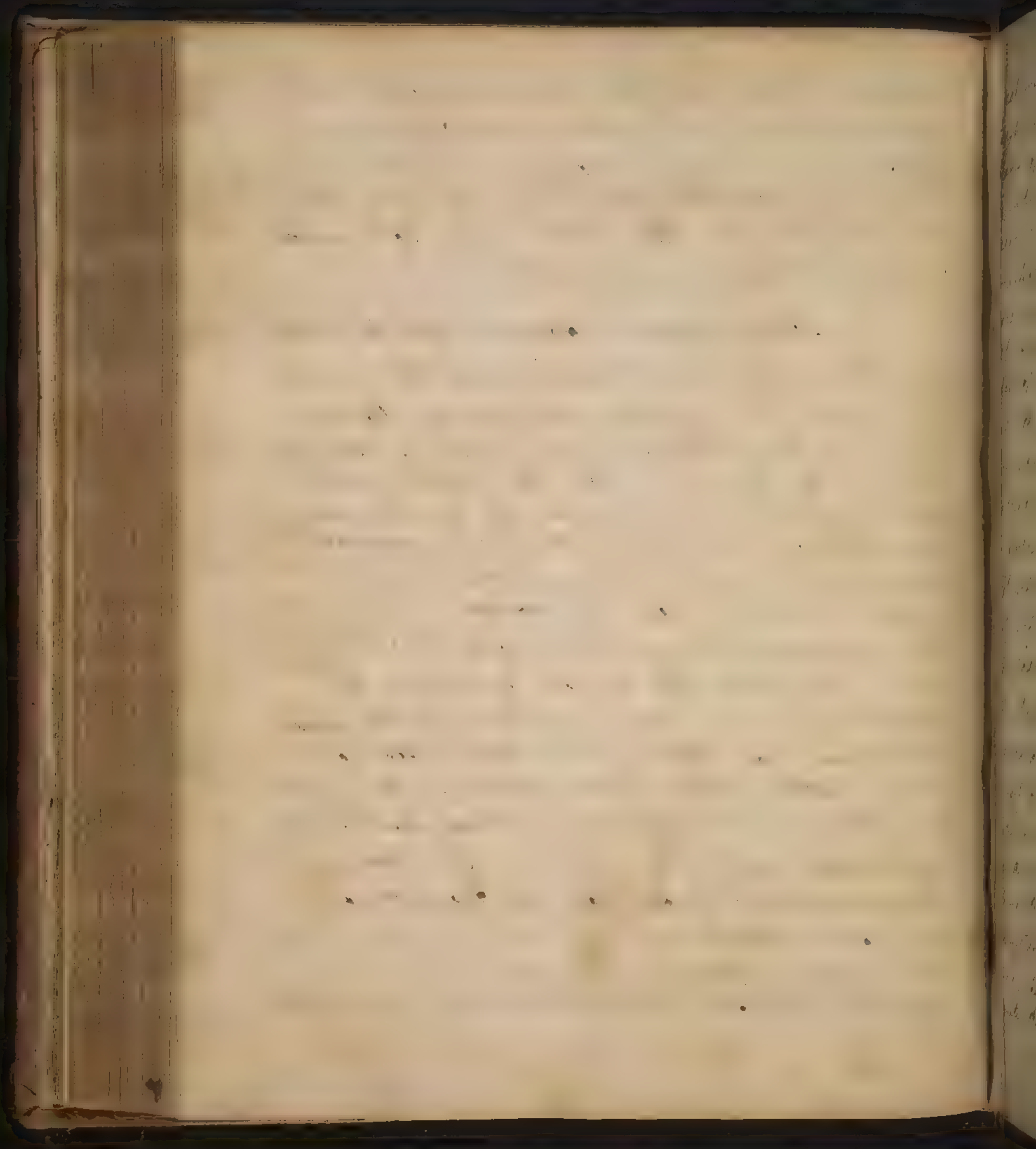
We see too that Vomiting attends Delirium Animi from bleeding, or other debilitating causes - and therefore it appears that vomiting may arise from a general debility of the System. However in the Cold fit of fever it does not seem that the debility immediately produces the Vomiting, but the violence of it seems to be more immediately connected with the state of the surface - Thus, in fever we see that as soon as the hot fit is formed, or at least as soon as any degree of sweat flows, the Vomiting ceases - And for this reason Sydenham, in the beginning of the Plague, could not get the stomach to retain his Medicines till he had used some means to procure a degree of heat, or a sweat on the surface, as by covering the face and hands of the Patient, &c -

Therefore



Therefore I think that these things in reality tend to confirm, on the other hand, the existence of a general Debility in the beginning of fevers. But I consider it now as a fact that the vomiting depends on this, and the Spasm on the Surface - And shall make an attempt towards an Explanation -

To this purpose I observe, that the debility does not directly produce Vomiting, but there is previously induced an anxiety, sickness, and Nausea, which seem to depend on, and indicate a state of debility in the Stomach. Now this subsists sometime before the vomiting supervenes, and the vomiting seems to be a reaction occasioned by this Debility, agreeable to the general Laws of the System, whereby an exertion or effort is made to remove the Sickness. The vomiting then is a reaction and an Instance of the *Vis Mediatricis Naturae*. Thus, those who are fond of marking the *Autokratia* on every occasion, particularly take notice of Vomiting as an Effort, even in Cases where no irritating Matter is allowed to be present, and to require to be thrown out by Vomiting. I say that Vomiting is a reaction; for by Observation we find that a vomiting puts an end to the cold fit of a fever, and brings on a hot fit - at the same time too it produces a glow of heat over the whole body. I cannot help giving a farther illustration here, by a fact, which is



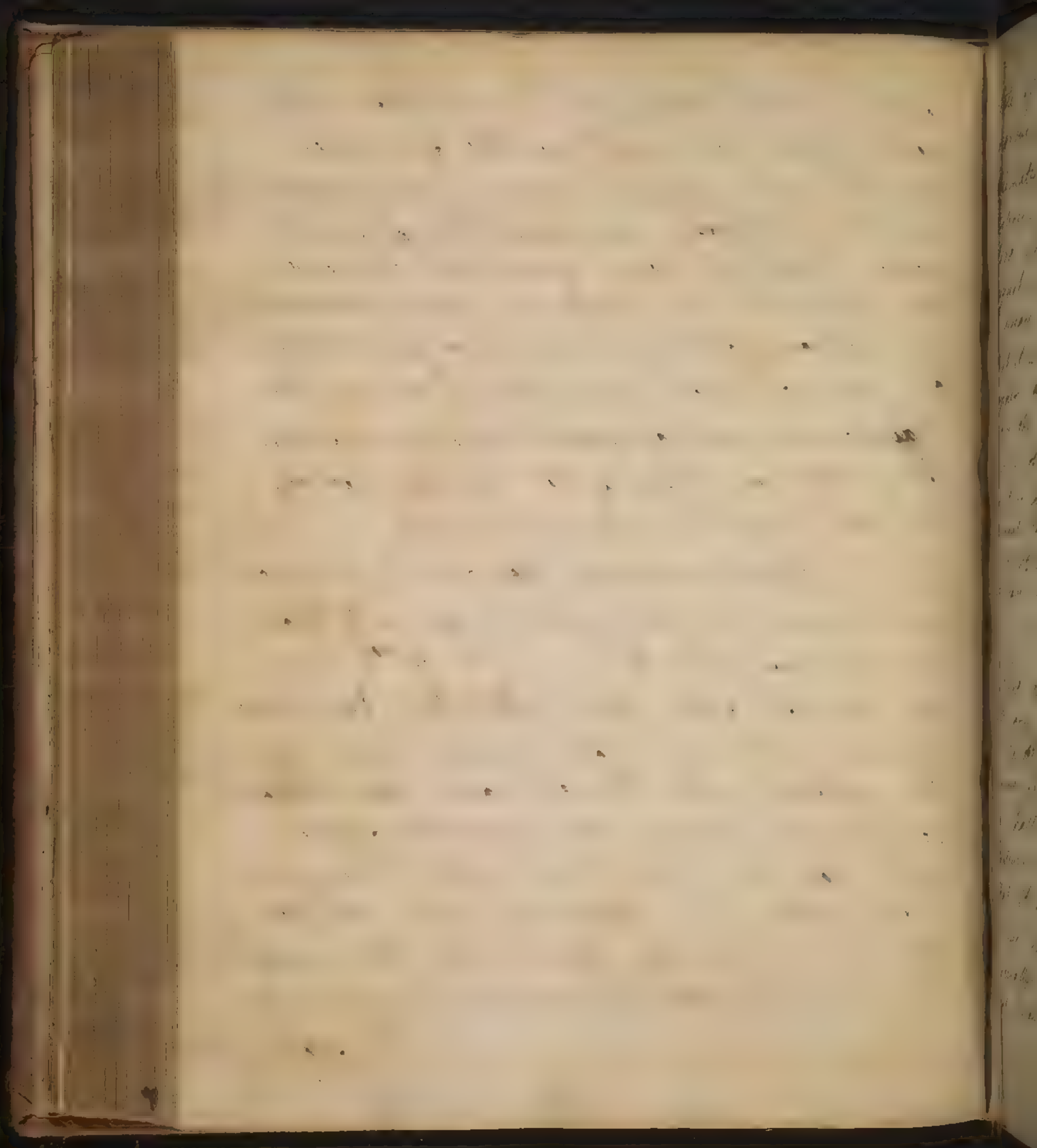
is not much attended to by Physicians, viz, that Emetics, though so commonly supposed directly Stimulant, are many of them in reality Sedative Medicines, or such as induce debility. This might be confirmed from many Considerations, viz, that some of the most remarkable Emetics are nothing but Narcotic poisons, which in their direct Operation produce a debility of the Stomach, from whence a reaction, or the effort of Vomiting, is excited to relieve it - To this we may add, the Consideration of the other Causes of Vomiting. And now I say, all this tends to support our general Doctrine, and the Theory we are giving of Vomiting in fevers - Having said thus much, then, we observe, that while it is probable that the sickness and anxiety which precede Vomiting, are the effect of debility and Spasm - The affection of the Stomach in the meantime being a part of the fundamental disease - The Nausea and Vomiting which succeed are perhaps truly a part of the effort of Nature, or the reaction, that has a tendency to restore the Energy of the Brain, and take off the Spasm from the extreme Vessels. This appears to me to be the case - and upon the whole, this circumstance of Vomiting tends to confirm our system. Here, however, I shall endeavour to obviate an ambiguity that may occur - I have just now said that Vom



Vomiting is to be looked upon as a symptom of the reaction - But I am not to conclude from hence that Vomiting in fevers is always a good Symptom - For if it is Obsolete, and proceeds to a considerable degree, it shows the power of the Cause to be great - viz, the debility - and therefore in fevers great vomiting is always looked upon as a sign of great debility, and more universally later degrees of the same thing.

Nausea and want of appetite are to be considered in the same light, as Bad Symptoms; for they show the disease to be more considerable -

By the vomitings that occur in fevers, a great quantity of bilious matter is generally thrown out - This has made the generality of Physicians very tenacious of the Opinion that these Vomitings were owing to the irritation of this bilious matter contained in the Stomach, and that bile has a considerable share in the production of fever - This I touched on somewhat before - The subject is of importance, and deserves our notice - It has been very universally observed that Warm seasons and warm climates produce some change in the
state



126.

state of the bile, and in particular that the Cholera morbus is the peculiar product of such seasons and climates, that is, a copious afflux of bile to the Intestines - Sydenham indeed asserts that the proper Cholera Morbus is almost confined to the Month of August - In Minorca Cleggorn observes that it is a disease of Summer and the beginning of Autumn. But it will appear sooner according as the seasons happen to be warmer, though in general it extends from the middle of July to the middle of September - Such is the fact, but the Theory is uncertain, in as much as it is dubious whether the bile is secreted in an unusual large quantity, or, being more arid occasions by its stimulus a more copious effusion - Very probably both have a share -

On the other hand we observe that the Cholera morbus or such effusion of bile, frequently happens with any fever either preceding or following, so that what ever be the Change of the bile, it does not necessarily produce fever - and therefore if we can find other causes we shall be led to suspect that any state of the bile whatever does not produce fever or any Quasion - That it does not, will appear from these Considerations; for we say that in case of various Autumnal fevers, especially a copious afflux of bile, may occur from several Causes - Which afflux we shall shew to be the consequence



consequence rather than the cause of fever.

127.

In the first place, from what has been said, we know that the attack of fever is attended with a contraction on the surface, I mean, its vessels, which is owing to debility. From thence the blood will be sent in less quantity to the extreme vessels, and must therefore be accumulated in the large ones, and, for evident reasons, especially in the Venous System - and not only this, but in general, while the vessels of the surface are contracted, it must be determined into the vessels of the internal parts, particularly into what is called the Hypochondriac System, where there is not only the largest proportion of Venous blood, but also that which is more difficultly transmitted. Hence when the blood from want of Exercise is not sent in due quantity to the Extreme arteries, it is accumulated in an unusual quantity in the Hypochondria.

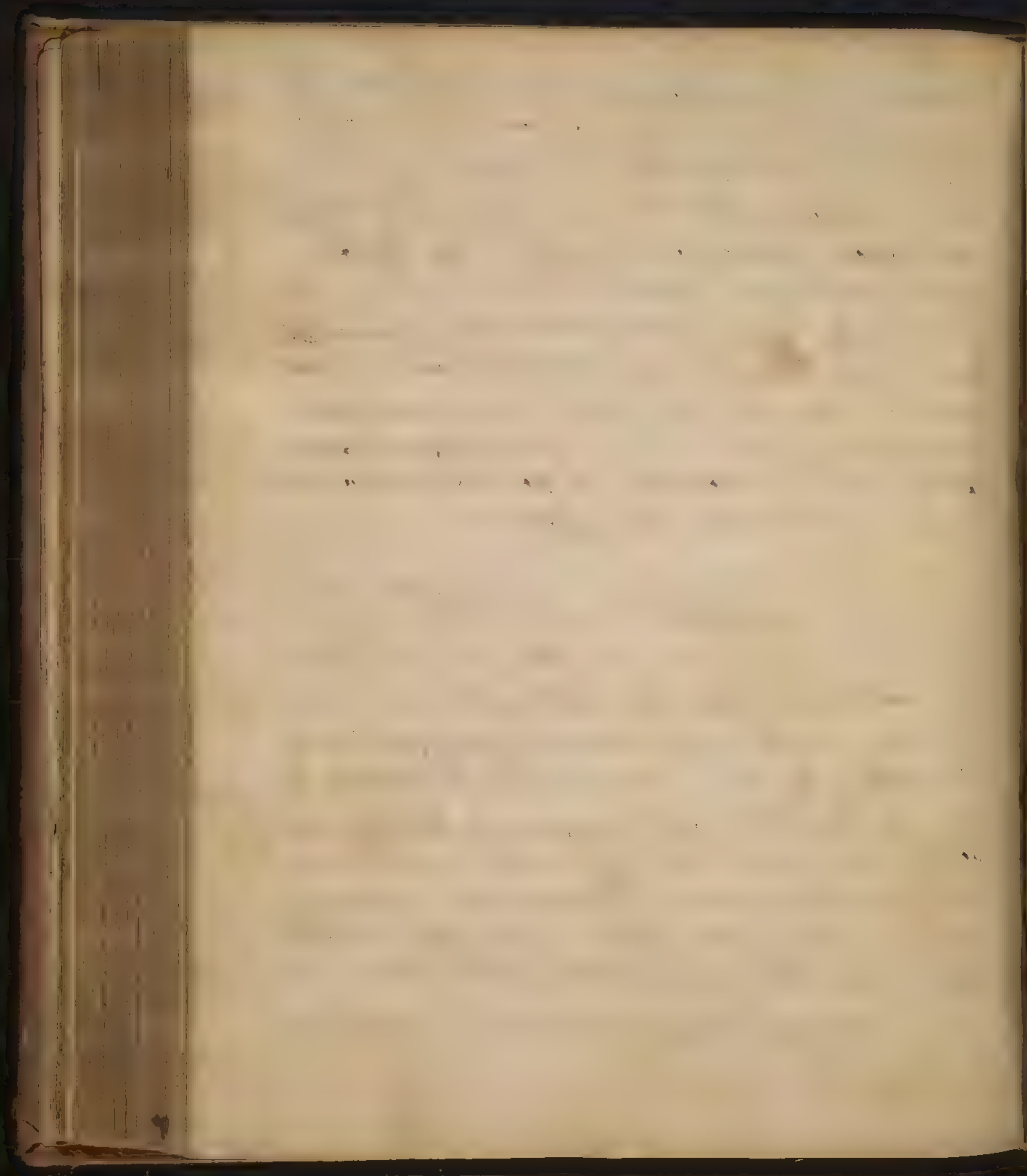
This will account for, and is confirmed by, the Congestions so frequently formed in the System of the Vena Portarum in those who die of Intermittent fevers. Thus too, Harvey upon dissection found, that in those who died of Intermittents, the blood was accumulated in the Lungs, right Ventricle of the heart, and other Viscera -
Clegg



128
Cleghorn observes particularly, that he found the spleen
enlarged to the unusual size of four or five pounds
weight, and at the same time of 10 10ft a consistence,
and red colour, that it had the appearance of coagu-
lated blood more than any thing else - This, therefore,
amounts for a more copious secretion of Bile - In
the Sporadic Intermittents M^r Cleghorn observes, that
there is not the usual quantity of bile poured out that
there is in others - but still there is an increase above
the natural quantity - and in Autumnal fevers it appears
that the bile is in a condition to flow more copiously; but
by no means is this the cause of the fever.

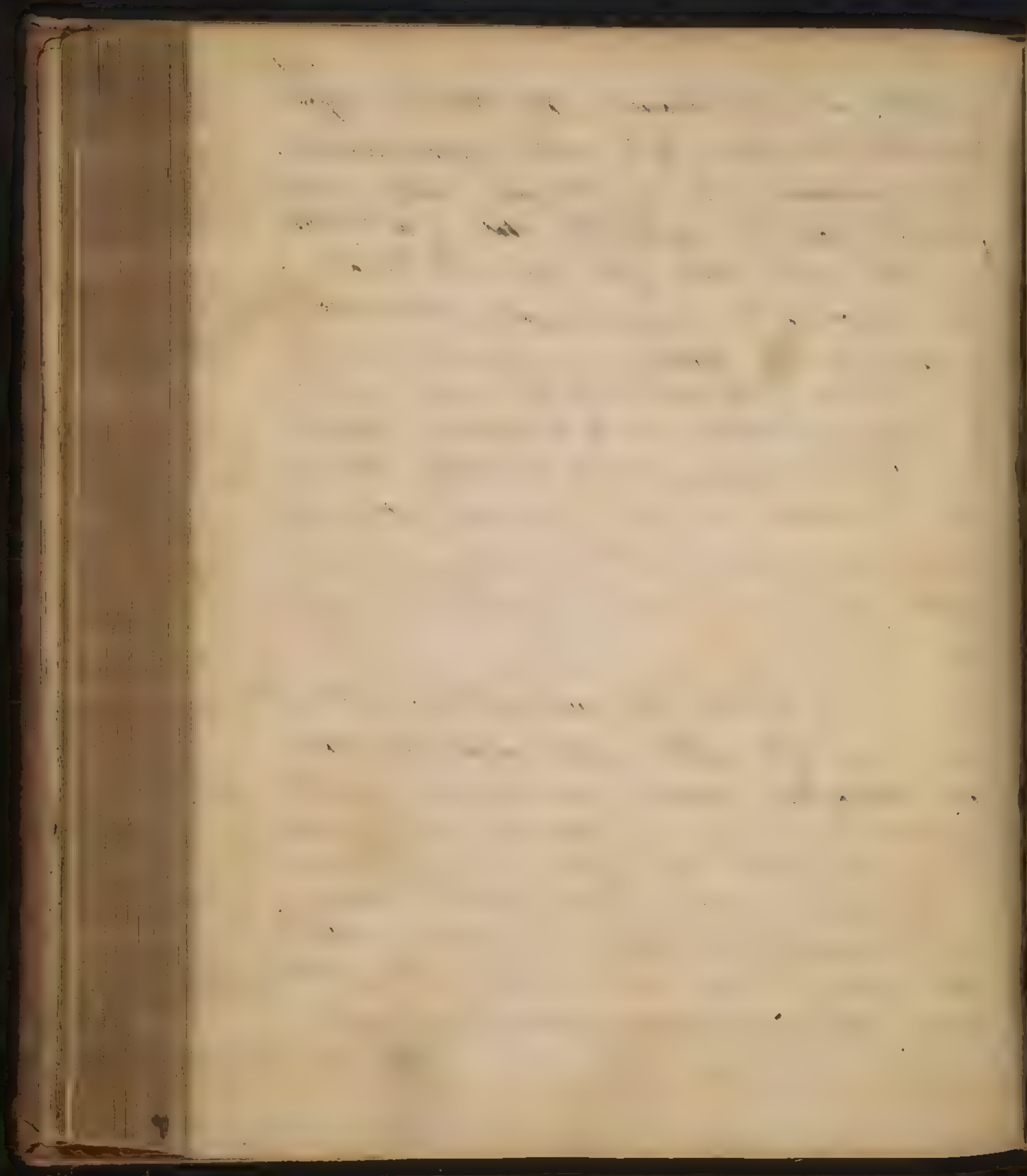
Also I can explain the copious efflux of Bile
in fever on another footing - Vomiting itself may be con-
sidered as a cause of it; for nothing is more obvious
than that Vomiting, forcibly excited, agitates and emulges
the Biliary Ducts - and by the inversion of the Peristaltic
motion the bile is thrown into the Stomach, &c.
Now the evacuation of Bile in fevers by Vomiting will
be remarkable, because here there is a cause con-
curring, which promotes its secretion, viz, the congesti-
on on the Surface, which has this effect by deter-
mining the blood more copiously to the Liver -

Further, it will be still more remarkable
in

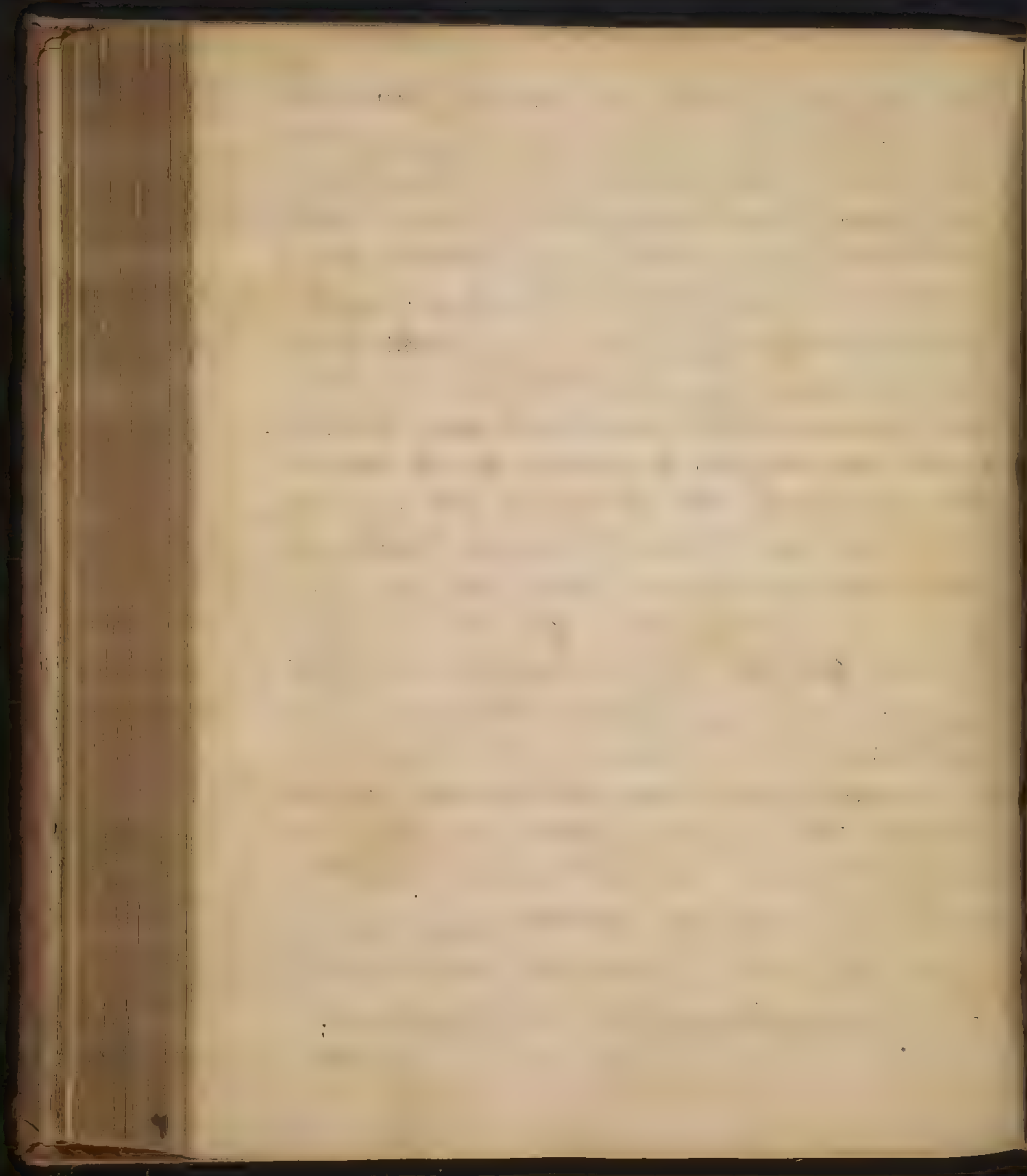


in Autumnal fevers, because in these the bile is disposed, from other circumstances, to be secreted in greater quantity. The great discharge of bile may, therefore, happen without furnishing ground to say that the state of the bile has any share in the cause of the fever; notwithstanding this Opinion has been very universally adopted both by Antients and Moderns. I might here enter into the consideration of the Opinion concerning this, held by the Antients and Moderns. As to the former, I do not meddle with their Opinions, because I maintain they were not in a condition to reason on a matter of this kind. But as to the Opinion of M^r Senac, who, from his great Erudition, has acquired a deserved Reputation, I must observe that

In his book before quoted, after rejecting the opinions of every other author on this subject, and particularly that of Van Swieten, gives one of his own, which he looks upon as more probable. Viz, he refers the cause of fever to the Bile. But he himself gives arguments enough to refute it, had he attended to them. (vid. De Melancholia &c.) He observes that there are certain other disorders, in which people evacuate great quantities of Bile, both upwards and downwards, and yet have no
Fever

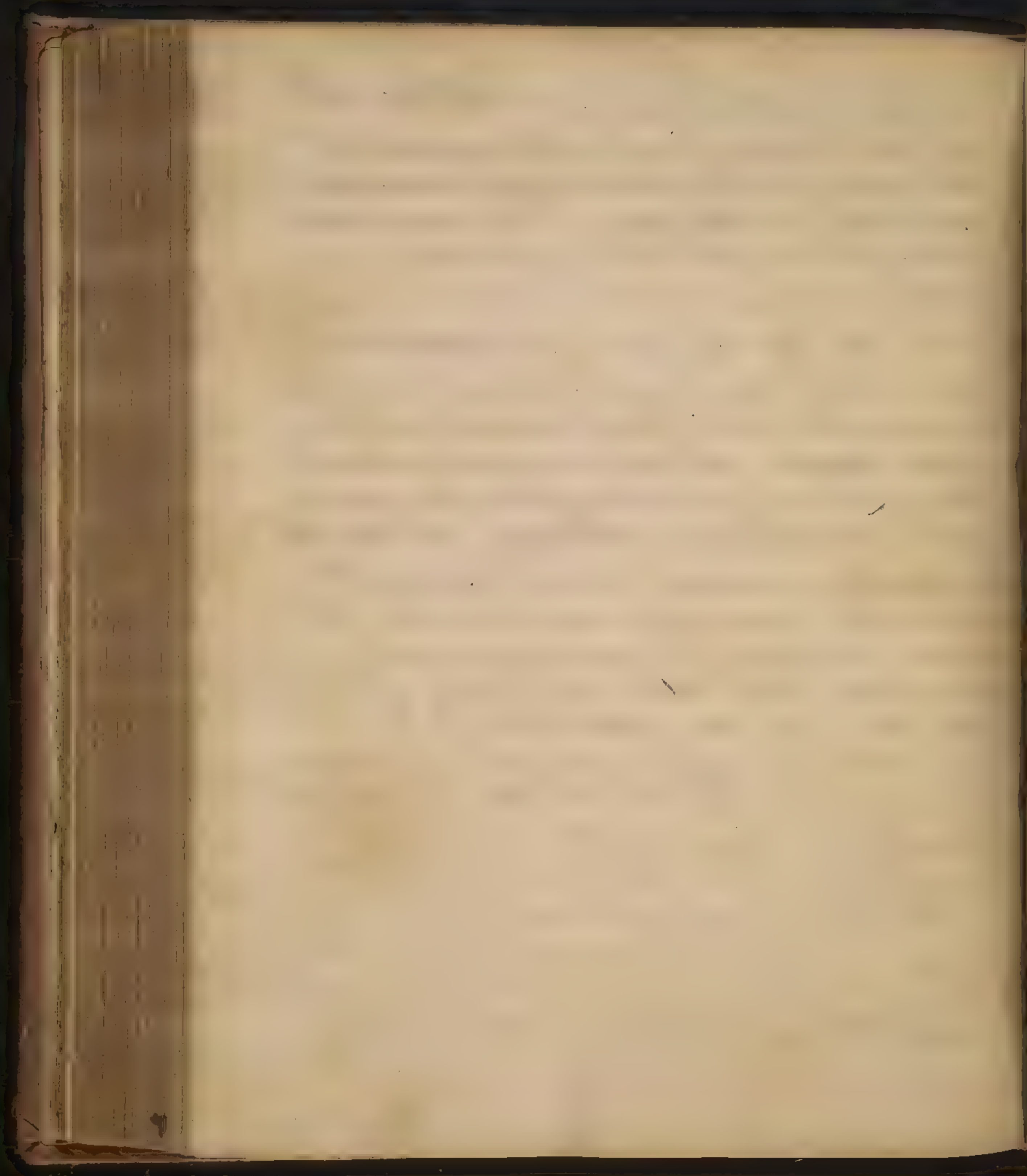


Fever - nay he even takes notice, that in Jaundice the Bile may ^{be} diffused over the whole system, and yet no fever be present (I would wish this book to be in all your hands, though I much doubt if it is - therefore I read to you what he says) - Also in his second Chapter, where he is treating the Variae Sententiae &c., he gives another argument which is very conclusive against ~~this~~ Opinion of the fever depending on the bile - He uses much the same arguments that we do with regard to vomiting. In this place therefore he concludes that the Cause of fever does not act in the Primæ Viæ - You may ~~consider~~ ^{consider} this at your Leisure, and observe whether every word here does not apply to what he afterwards says of the Cause being ~~in~~ ⁱⁿ the Bile - Upon the whole then I conclude, that the Bile is inadequate to the Effect of producing Fever, and that even those we so generally ^{call} Bilious Fevers are not owing to the bile - But we are convinced that Intermittent fevers are owing to something taken in from without, viz, what we call Mareff-~~Effluvia~~ - and ^{of which we} shall say more hereafter - For whatever be the state of the Bile, if we avoid Mareff-~~Miasmata~~, no Intermittent fevers are produced. Yet the Circumstances of the Bile may often, in
some



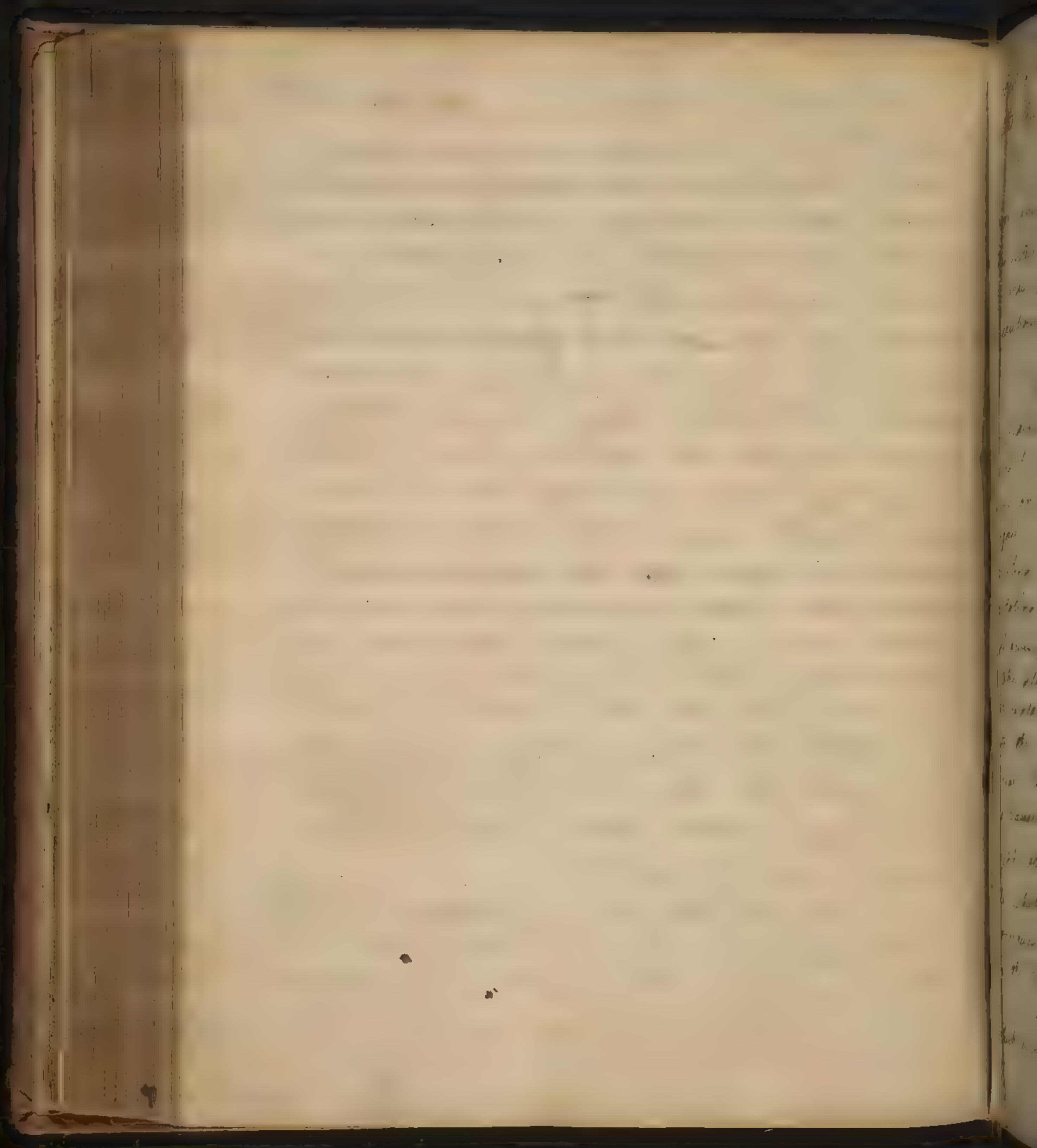
some measure, influence our method of Cure. But unless the Reception of marsh Effluvia concurs, as Dr Lind observes, it is not the heat of the climate alone that will bring on these fevers (See his ingenious work on the preservation of the health of Europeans in warm climates.)

M^r Senac does not suppose that the Bile of itself can acquire force enough to produce fever, but that it is first mixed with the febrile Miasmata, and then produces its effects - and here I must allow that the notion of the mixture of the Miasmata with the Bile is not altogether without foundation; for though I maintain that the Miasmata only produce fever in consequence of their action on the Nervous System, yet I will not deny that they may enter the fluids, and act as a ferment in them - (and moreover I say, that they may associate with some of the fluids more than others; and with these more or less as they are in different conditions, so as to make the affinity of the miasmata with them greater or less. This probably is the case with the Bile - The febrile miasmata may unite with it, especially in autumn, so as to occasion particular disturbances in the Primæ viæ. But when I have made this Conception, I say it does not apply to the cause of fever, but is what I presume actually takes place in Dysentery - This is probable; for



for the Dysentery is a disease arising from the same
marsh effluvia, which most commonly occurs without
Dysentery - and Dysenteries also without fever, at least in
the same form - It has been observed ~~to~~ in warm
climates, when Dysenteries and Tertian fevers are
epidemic (vid. Clegborn) that those persons who had the
Dysentery were less liable to be affected with a Tertian
fever - and vice versa - The one being a security against
the other - Mr Clegborn too gives a confirmation of
the same with regard to the difference between children
and adults, as they are more or less liable to Tertian
fevers - He quotes a passage to this purpose from Celsus
Aurelianus, and observes that the ancients reckoned
children more liable to epidemic Tertians than others, but
says that in this he differs from them; for though it is certain
that the Bile and Primæ viæ of children are much more
liable to disorders than those of adults, and he had ob-
served that Bilious Diseases first appeared among children,
yet he asserts that they are less liable to fevers - Hence
then it appears, that the cause of Fevers and Bilious
Disorders is somewhat different -

I have said thus much on the subject of Bile be-
ing the cause of fever, from a regard to the Opinion of
Mr Senac - also to Sir John Pringle, and even Mr Clegborn;
for



133.

for all of them seem more or less inclined to the Opinion,
altho they only give some hints to that purpose -

We must next proceed to take notice of the Infection,
-um, and explain the Symptoms expressing its state -
This indeed is a difficult undertaking; but nevertheless I think
we may, and ought here to try what we can do, or how far
a cautious Theory will carry us -

Yesterday I was laboring at two points - first,
to explain the Vomiting that occurs in fevers, which I
shewed to be consistent with our general system, and to
depend on the debility of the system and Spasm on the
surface - And secondly, I endeavoured to show that the
Vomiting was by no means owing to an acrid matter
irritating the Stomach; and particularly that it was
not owing to a greater afflux of bile, which is observed
to take place in many fevers - But we found that we
could explain this afflux of bile upon the same principles
with the other Phenomena of fever, agreeable to our
general Doctrine, - and that it was not to be considered
as a Cause, but an effect of fever - However, I said there
might occur what I called an Obstructional state of the
Bile, which might influence its Functions, and be of so much
consequence in fever that it ought to be attended to
in the Cure -

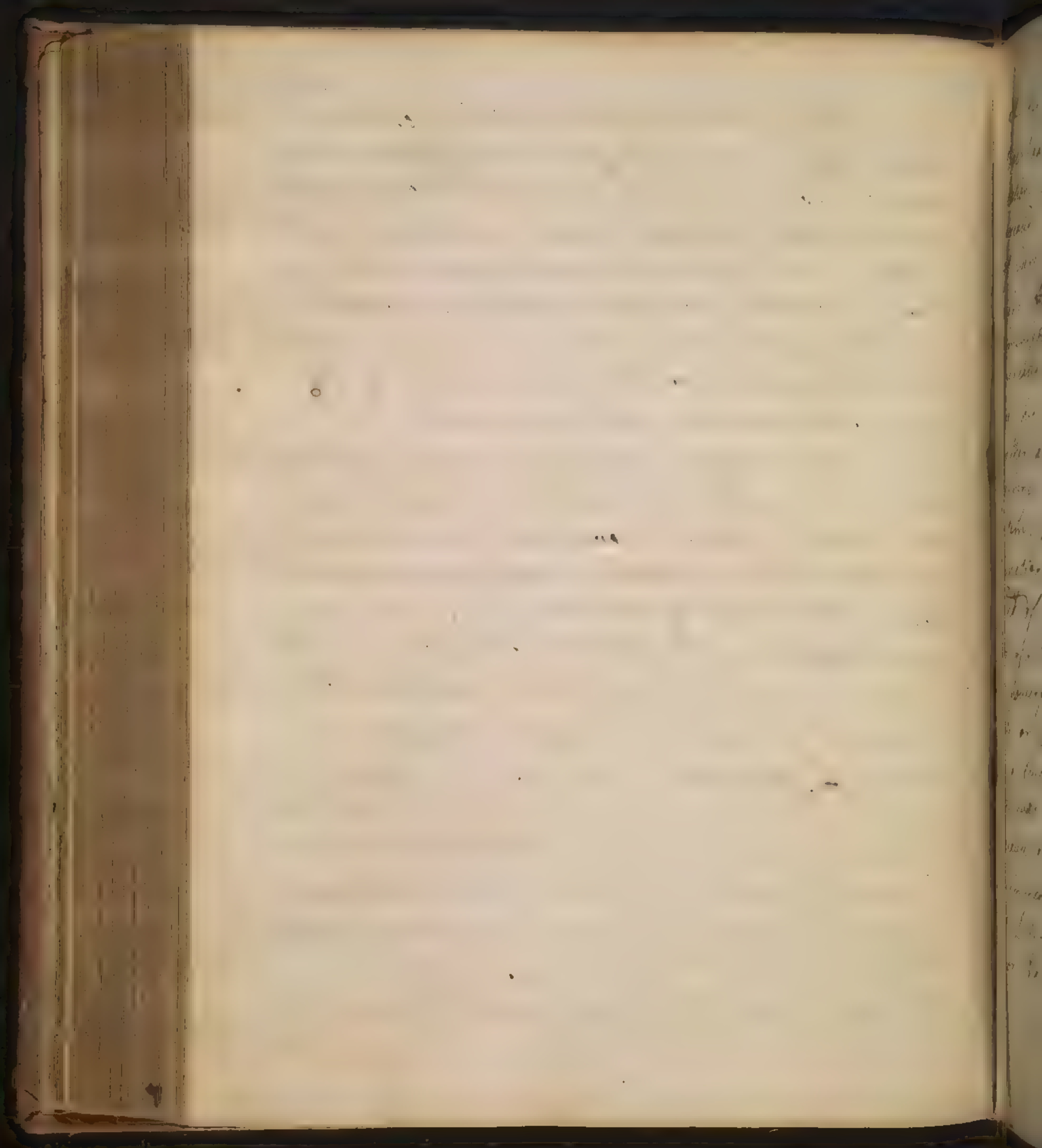
I shall next take notice of a set of Symptoms
which express the state of the brain in fevers -

Every



Every Problem relating to this is of the most intricate nature and most difficult Investigation. However we shall prosecute our usual Plan, viz, to find out, in the first place, what is the matter of fact, and then we see what state of the System is thereby implied. As the greater part of fevers are attended with Delirium more or less, it gives a presumption that this is connected with the general state of the System, or the Cause on which fever depends.

When Delirium comes on in the hot fit of fever, and is preceded and attended by Headach, throbbing of the Temples, full and strong pulse, &c, we do not doubt to ascribe it to the increased Impetus of the Blood in the Vessels of the brain; especially when we consider that every Inflammation of the brain consists in such increased Impetus, and is attended with Delirium. There can be no doubt of admitting such a Cause, ^{for} that there is one Species of Delirium depending upon increased action of the Vessels of the brain, is not contradicted. Accordingly all Pathologists agree in admitting this; and indeed make it too general, referring all Causes of Delirium to the state of the Circulation in the Brain. Thus (see Boerhaave Aph. 701.) in the whole Tenour of this Paragraph for all

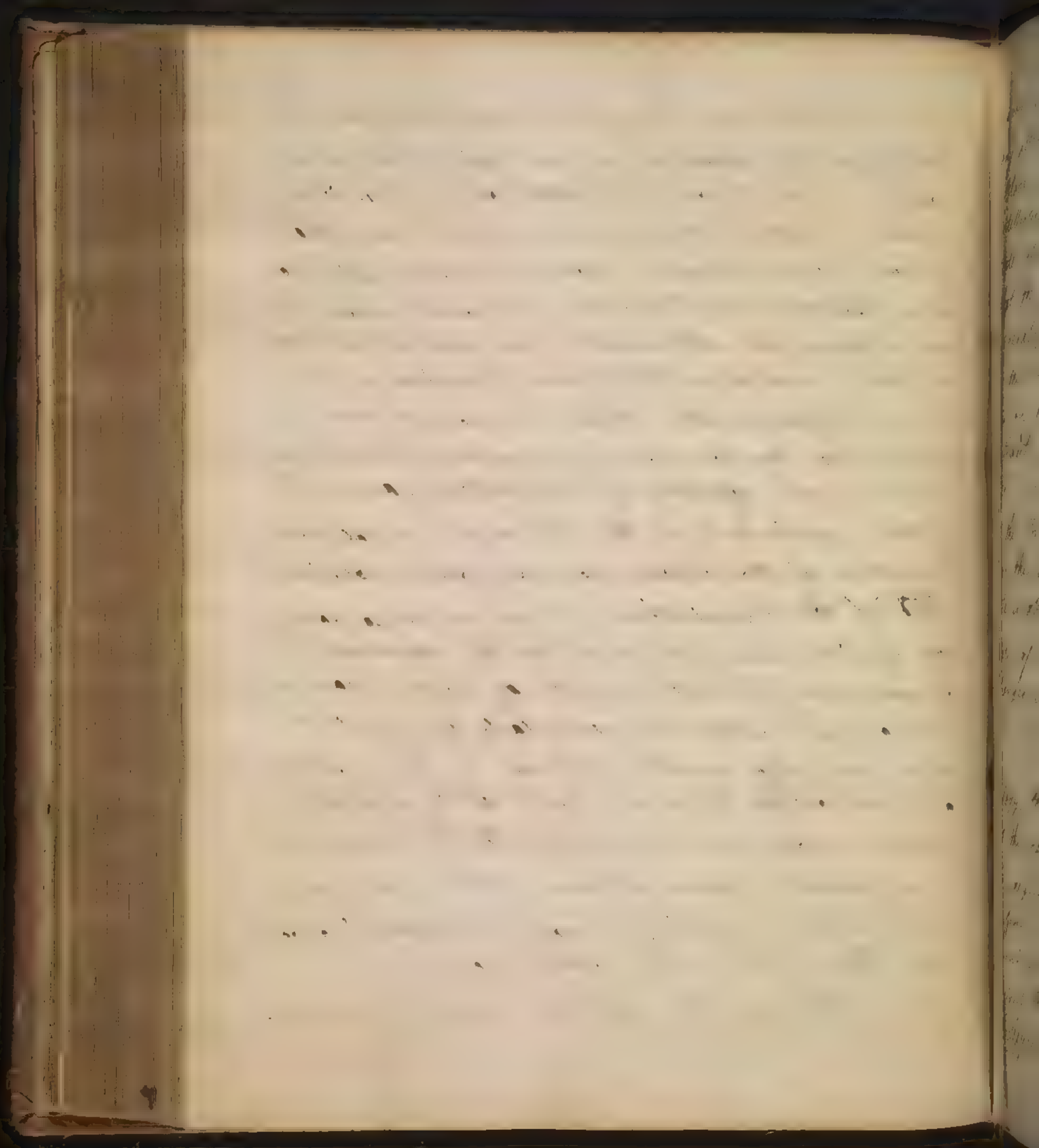


all his "plurimas causas" I maintain that Dr Boerhaave had chiefly in view the state of the Circulation in the Brain, and that too, confined to increased Impetus - as we may see from his method of Cure, which he gives in the next paragraph - For nine tenths of his Remedies are plainly means of diminishing the determination, and tend only to remove increased Impetus in the Vessels of the Brain. It is true his Commentator thinks we may go much further, and says there are Sympathetic Deliria, depending upon affections of the distant parts of the System, particularly of the Stomach - so that the Functions of the Brain may be affected independent

ant of the Circulation - But he had no conception of a Delirium being cured by the application of powerful Stimulants, Cases of which I have been told on good authorities, particularly of a Gentleman in a fever who removed a Delirium by the use of Wine, and was obliged to drink eight bottles in a day, because as soon as the effect of the Wine was over he immediately became delirious - This is one species of Delirium which, I imagine, neither Boerhaave nor Van Swieten ever thought of.

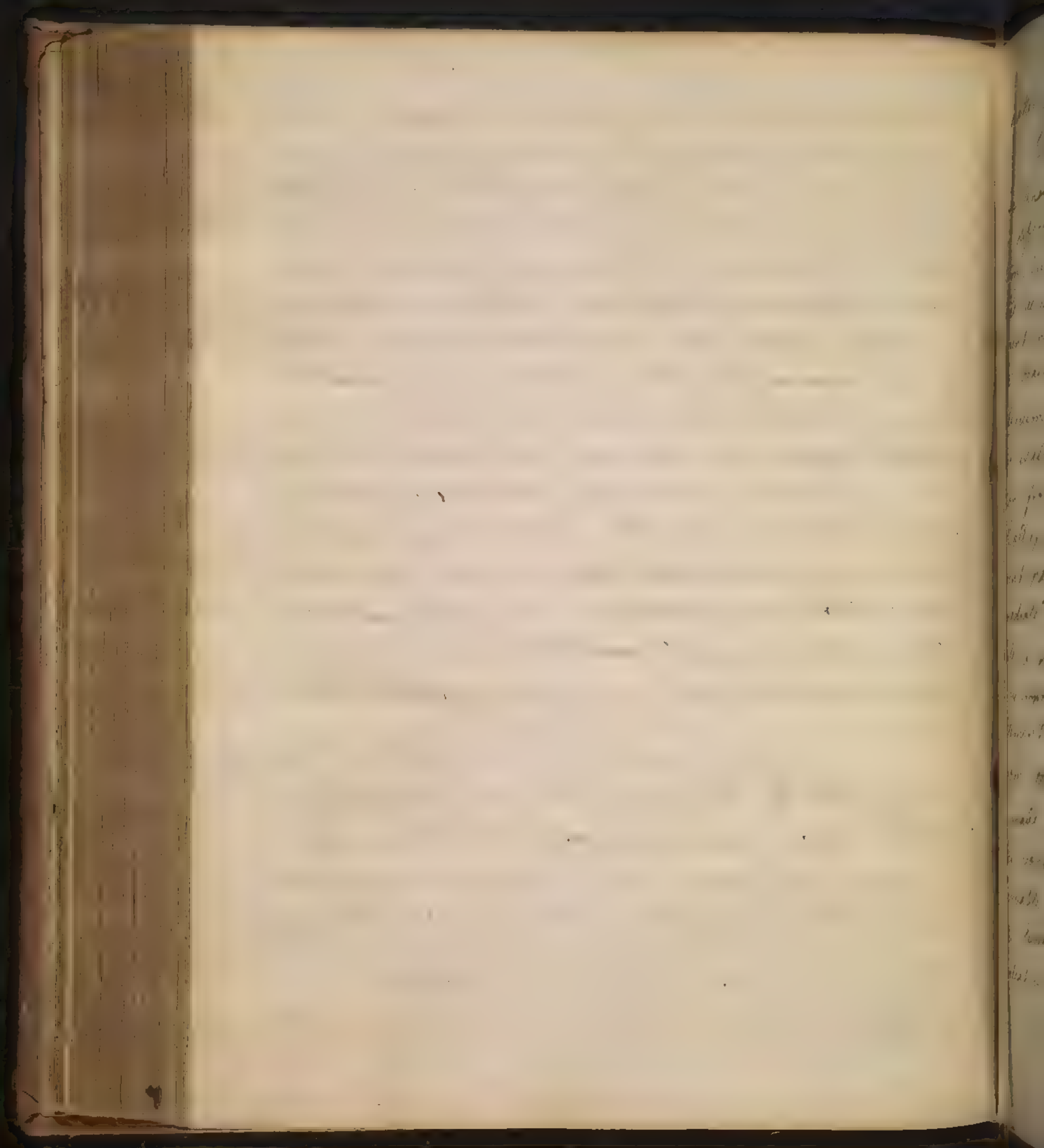
We say, then, that the motions of the nervous

-vous



nervous power may on many occasions be changed without any alteration in the state of the circulation of the Blood and I suppose you know that changes of the Intellectual faculties are only to be sought for in the state of the motions of the Nervous System. It is true that the Impetus of the Blood in the brain often considerably affects this - But at the same time we often see the Impetus diminished in cases of great Exhaustion. And on the other hand, increased in violent Exercise, without affecting in the least the Intellectual faculties - Therefore I look for the Cause of the change of the Intellectual faculties in the Nervous system - For the immaterial part of our mind in the living state is observed very exactly to correspond with the state of the corporal part, the Nervous system, and changes in the last considerably affect the other -

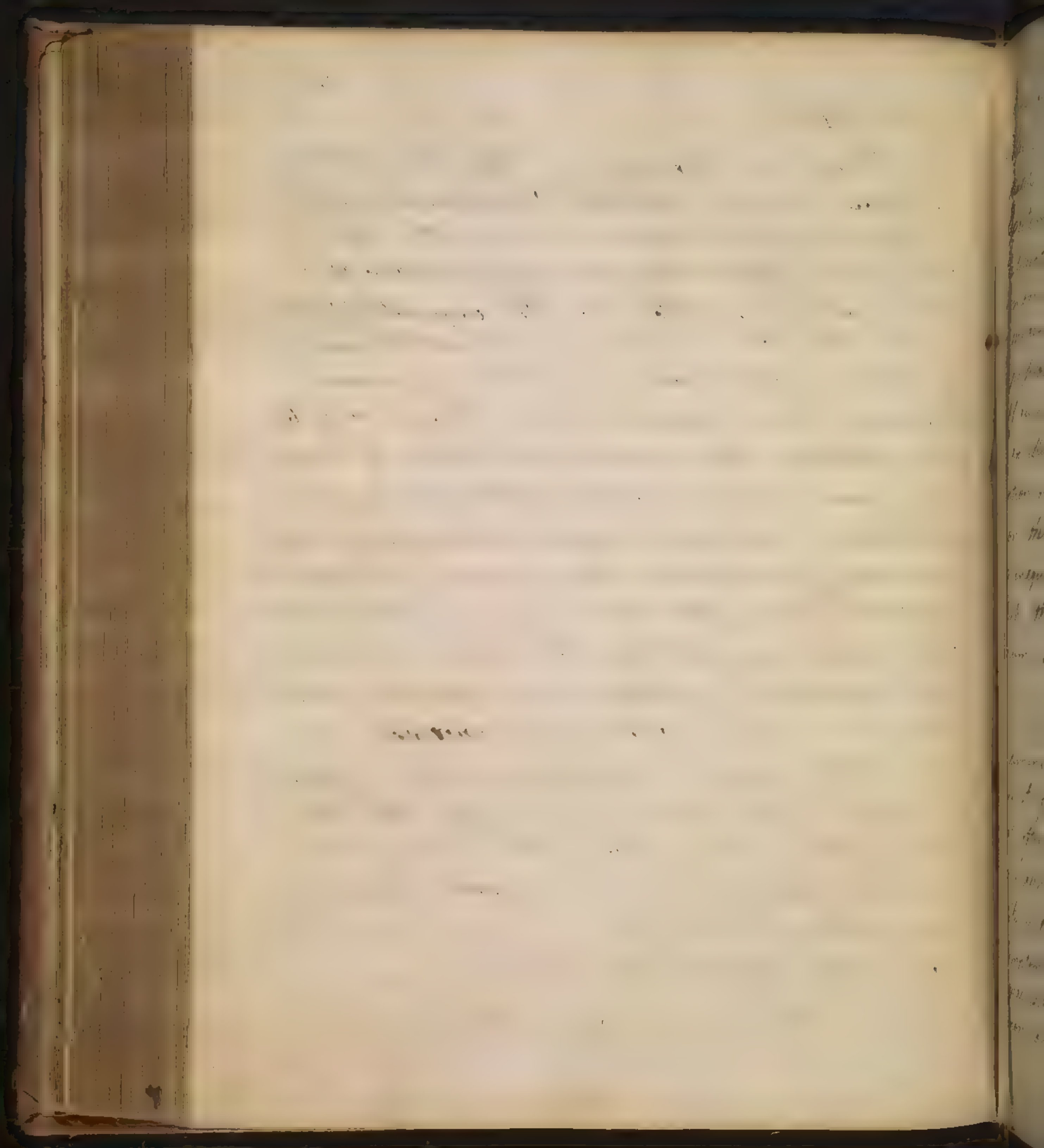
Now I suppose it demonstrated in Physiology, that the Energy of the brain, or distribution of the nervous power, at different times is different in degree and force - and in this difference consists the different states of sleep and watchings - Now these different state of the Brain may be expressed, without respect to any theory, by the terms Excitement and Collapse, which are to be used only as signifying the matters



matter of fact.

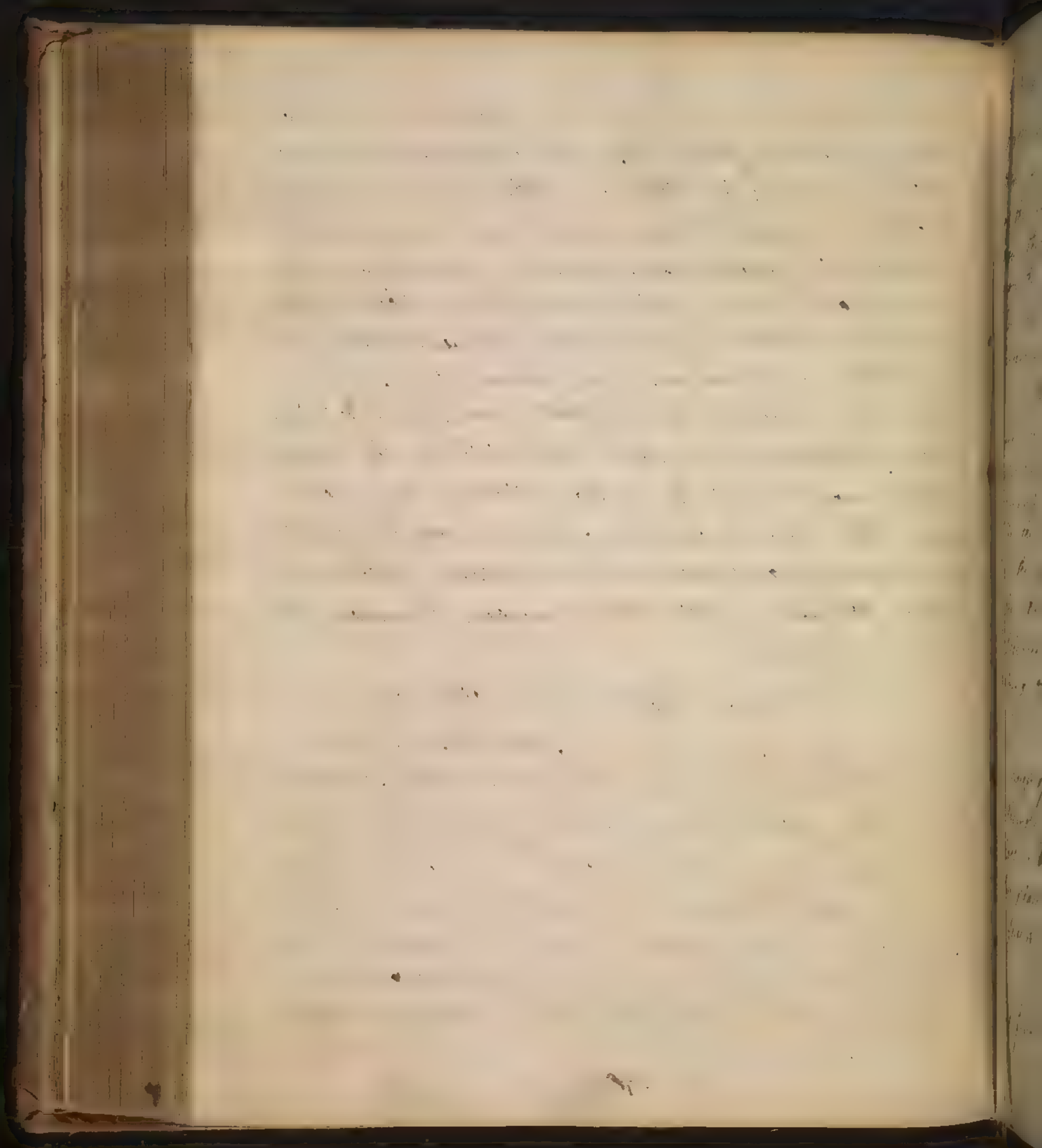
From the Phenomena of Sleep and watching, we know, not only that this Excitement may be in different degrees at different times in the whole system, but in different degrees in different parts of it - And we can easily understand how this inequality of Excitement in the brain, with respect either to the parts of the brain or different parts of the system, can produce Delirium. This is agreeable to some Phenomena of sleep and watching - When a person falls asleep, the transition from watching to that state (that is from Excitement to collapse) comes on by degrees and successively in different parts; - and hence when a person is in this intermediate ^{State}, a part of the brain may be in a state of collapse while a part may yet have its Excitement remaining, or by impressions on particular Senses subsisting, the Excitement in some parts may be ~~increased~~ - Now from this inequality (as impressions may even in this state be made on the Organs) it is manifest that Delirium and Confusion must arise - and accordingly it is observable that this Delirium does ~~not~~ continue till the Excitement, or collapse, is rendered more complete with respect to the whole -

The same is observable in a person coming
- ing



coming out of sleep. If by pinching, noise, &c a person be suddenly awakened from sleep, the Excitement is not immediately complete; but there is in the mean time an ^{unequal} Excitement of the Brain, which gives confusion of the Intellectual faculties, or a delirium - Accordingly nothing is more common in such circumstances, when a person is suddenly awakened by unusual Stimuli, than such expressions as "I was out of my senses - half asleep and half awake - did not know what I was about, &c." This is an illustration of a fact - and I think the explanation may be extended so far as that we may look upon the whole of delirium of Fever as depending upon the inequality of Excitement or collapse of the brain. Which, therefore, is all I think necessary to explain Delirium in fevers -

We know that in fever there takes place a diminution of Excitement of the brain; for we find it frequently proceeds to a deeper state of collapse, that often attends fevers, known by the term Coma or a deep sleep - Fever, we observed, is founded in Debility, so that Delirium is sometimes among the first symptoms - This collapse, it is to be noticed, is not equal with respect to every part of the body - but is more complete with respect to the animal than to the vital

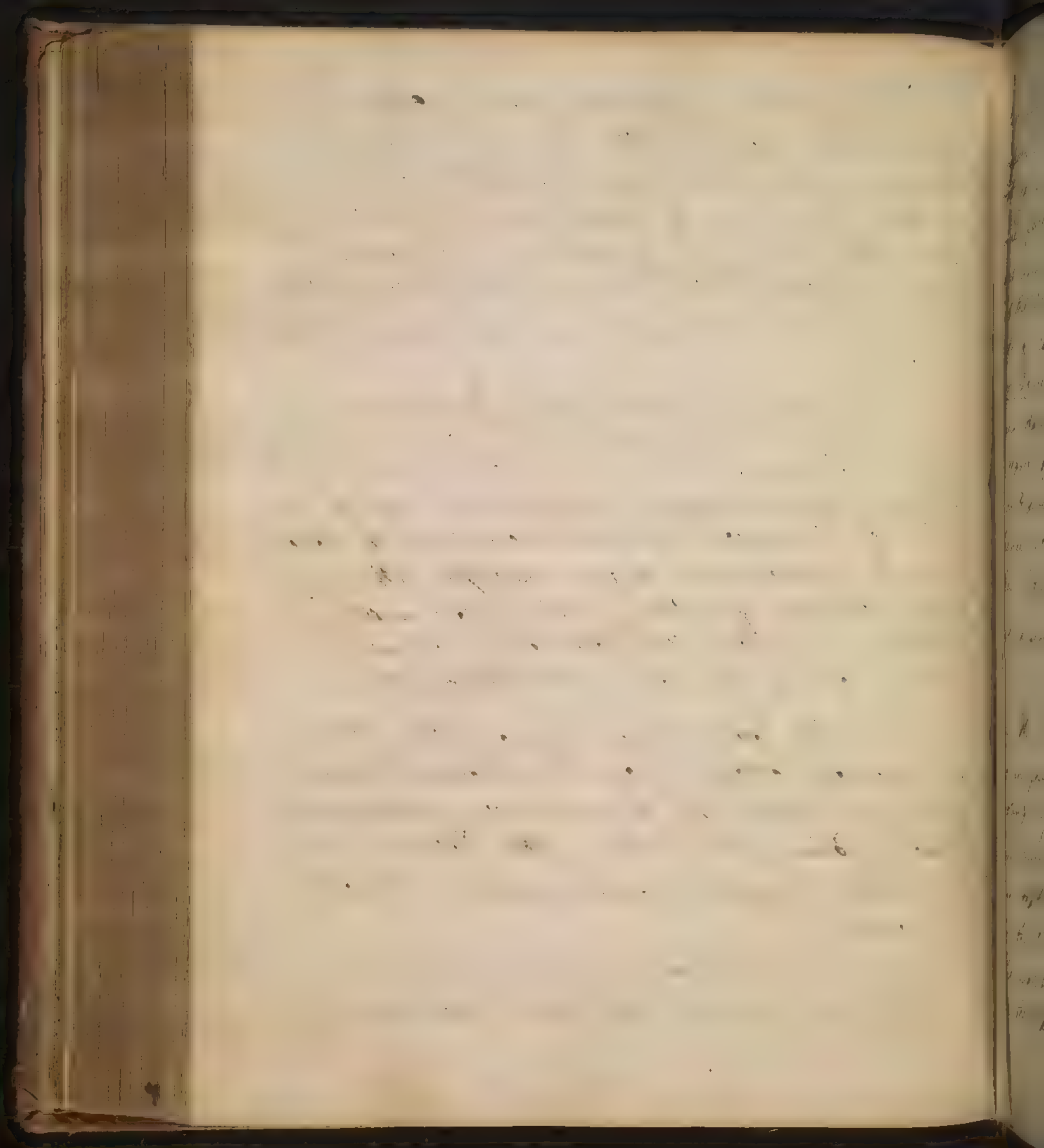


the Vital functions, and takes place in different degrees with respect to the natural - It appears, then, in fever, that inequality of the excitement of the brain lays the foundation of Delirium - Now this I presume is of two kinds - It may depend upon the excess of Excitement, or upon the excess of Collapse. These two Causes I imagine give two Species of Delirium -

The first, viz, From increased Excitement, is occasioned by the Impetus of the blood which is a cause of greater Excitement, and one on which the ordinary Excitement of the System in great measure depends - Now while this is increased, and at the same time, the Collapse from the general cause of fever, subsists with respect to the animal functions - such a state will give a Delirium - and it is ^{this} that occurs to a person waking out of sleep, and in the hottest of fevers.

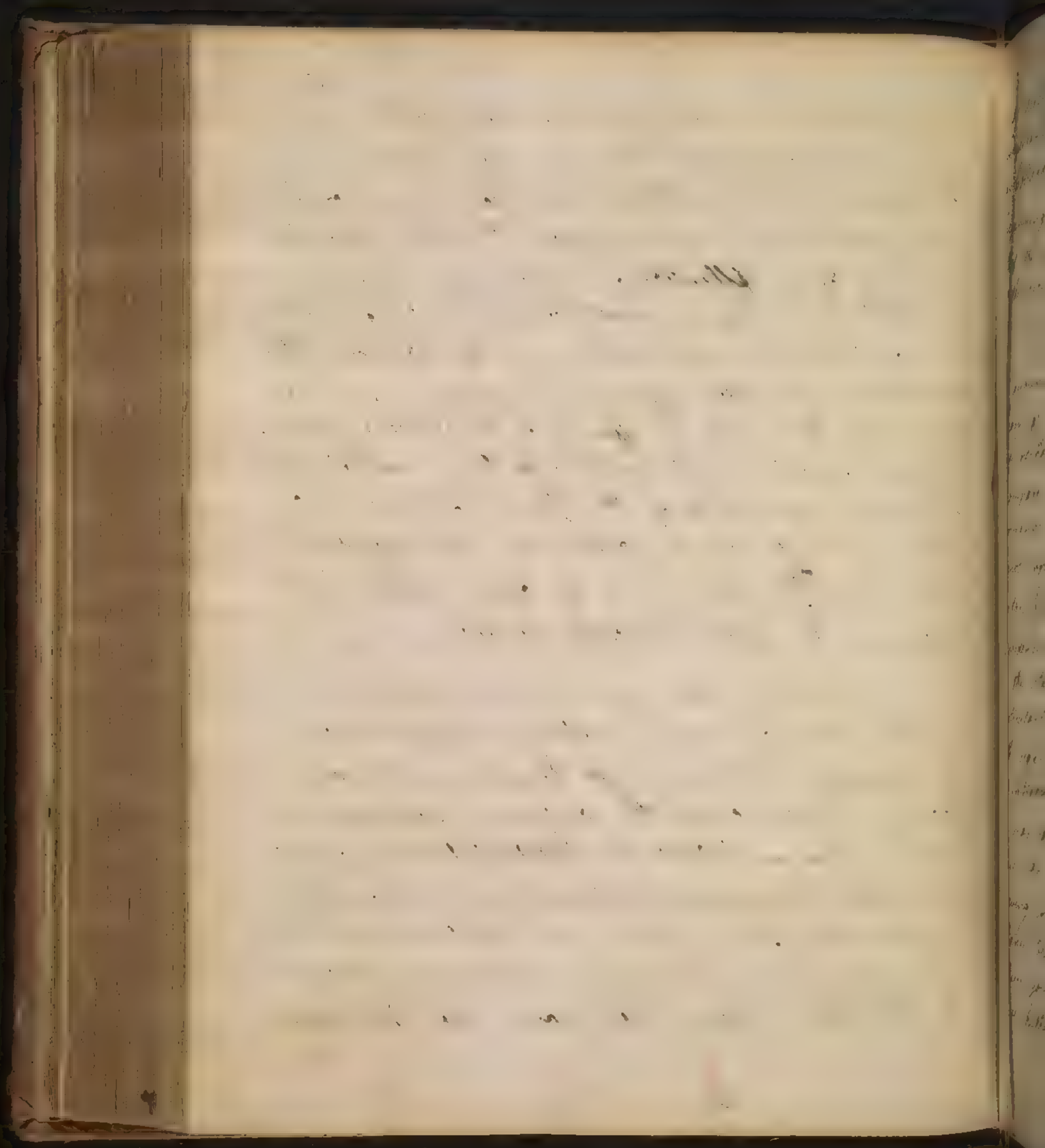
The other Species comes on when ~~there is~~ an excess of Collapse, from the Sedative Operation of Remote Causes, and the ordinary impetus of the Blood is diminished - This is the Delirium that takes place in falling asleep, and in the coldest of fevers -

Now from these Principles, which we find consistent with the Phenomena of sleep,



sleep and watching, we can explain the whole of delirium in fevers. It is applicable to the Transitory Delirium that happens in Intermittents and also in some continued fevers, which may be supposed to take place without any topical ~~Affection~~ or Inflammatory tendency. But this Delirium appears mostly to depend solely on the state of Excitement and Collapse of the Nervous system, from causes immediately affecting it - yet there may occur other causes than these, which act differently on the Nervous system. A degree of topical Inflammation of the brain may take place, so as to give more or less of the ^{ph}renetic Delirium, from whence it will be more obstinate. There may also be other causes, ^{of} Excitement of the brain, which will have a similar effect. But of these hereafter.

There are still other Symptoms to be considered - viz, The States of sleep and watching themselves, as occurring in fevers; which we must explain on the same footing. If you consult the writings of Boerhaave and Van Swieten on Coma and Peruvianism, you will find that they refer all to the state of the Circulation in the Brain. &c. But if our explanation of sleep and watching be well founded, this will not always be the case. I hope I have shown that these symptoms may



may depend on the State of the Nervous System alone, dependant of the Sanguiferous, viz, its state of Excitement or Collapse. Moreover, if Sleep shew itself often in the beginning of fever, we may, I think, from thence conclude that the Cause of the Fever acts by diminishing the Energy of the brain -

Having now finished my *Ratio Symptomatum*, or account of the Phenomena, I here conclude my general Theory of fevers, which I hope is well understood, though you may, perhaps, still have your difficulties - I would advise you to compare it with other Theories - My Theory, I think, recommends itself by its simplicity - You will find that it depends upon no Hypothesis - It does not suppose any Lensor, Specificity, or Acrimony of the fluids, of which we have no evidence, nor any other occult quality, or subtle change in the state of the fluids, which we can never more particularly ascertain - Neither does it respect any theory with regard to the nature of the nervous power - We have not introduced any subtle Hypothesis of a Nervous fluid. You may consider it either as a spirit, an Ether, an elastic fluid, an aqueous fluid - or what not - and this either flowing in Vessels, or passing along the Medullary substance. Be it still my Theory will stand, whatever Hypothesis you assume it does not at all affect what we have hitherto delivered -

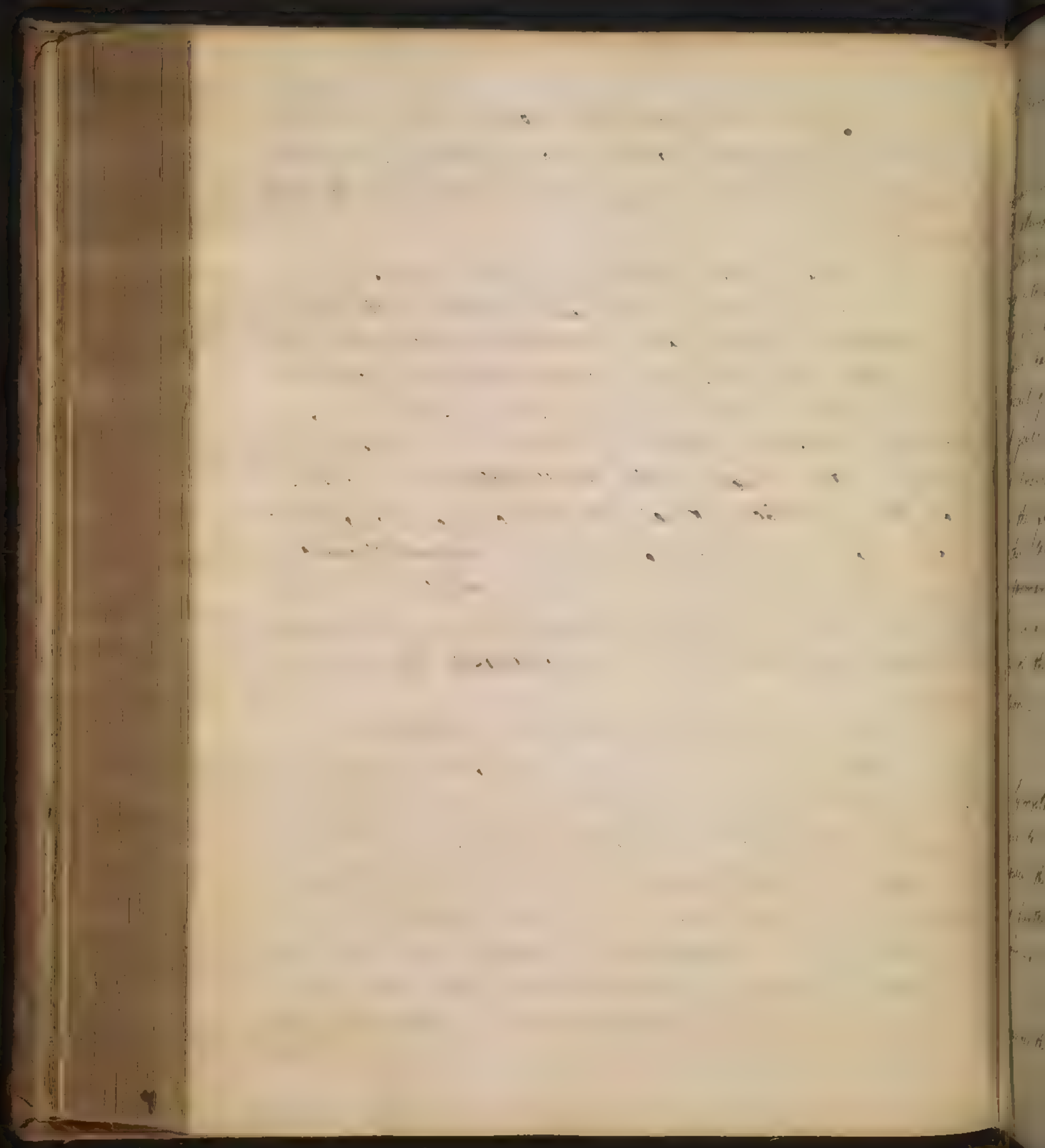
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But I must now touch upon the more complicated parts of the Doctrine - our system is very short. The following is the sum of what we have been hitherto doing.

Some have made fever consist only in a frequency of the Pulse, or increased action of the heart and Arteries - But I have said that every proper fever begins with a cold fit. (vid. Hoffman. Tom. I. Pag. 301.) No increased action is either permanent or troublesome, or properly constitutes a disease, unless when it is begun by Spasm - and I agree with all Pathologists in saying that this is the cause of all the Phenomena that follow. How Spasm induces increased action is difficult to explain. I have laid some foundation for the Explanation, but I insist only upon the matter of fact - We conclude from their constant succession, that the Spasm is the ~~cause~~ ^{concomitant} of the increased action -

Next with regard to the cause of the Spasm, we found that it was not a direct Stimulus, as has been commonly imagined, but that in case of fever the Spasm is founded on a state of Debility, which is induced by the Operation of remote Causes - That the Debility does take place in the beginning of fever, I inferred from the Phenomena, and therefore I assume it as a fact also. and there is certainly all the grounds imaginable for it, if we can judge at all from any Phenomena of the

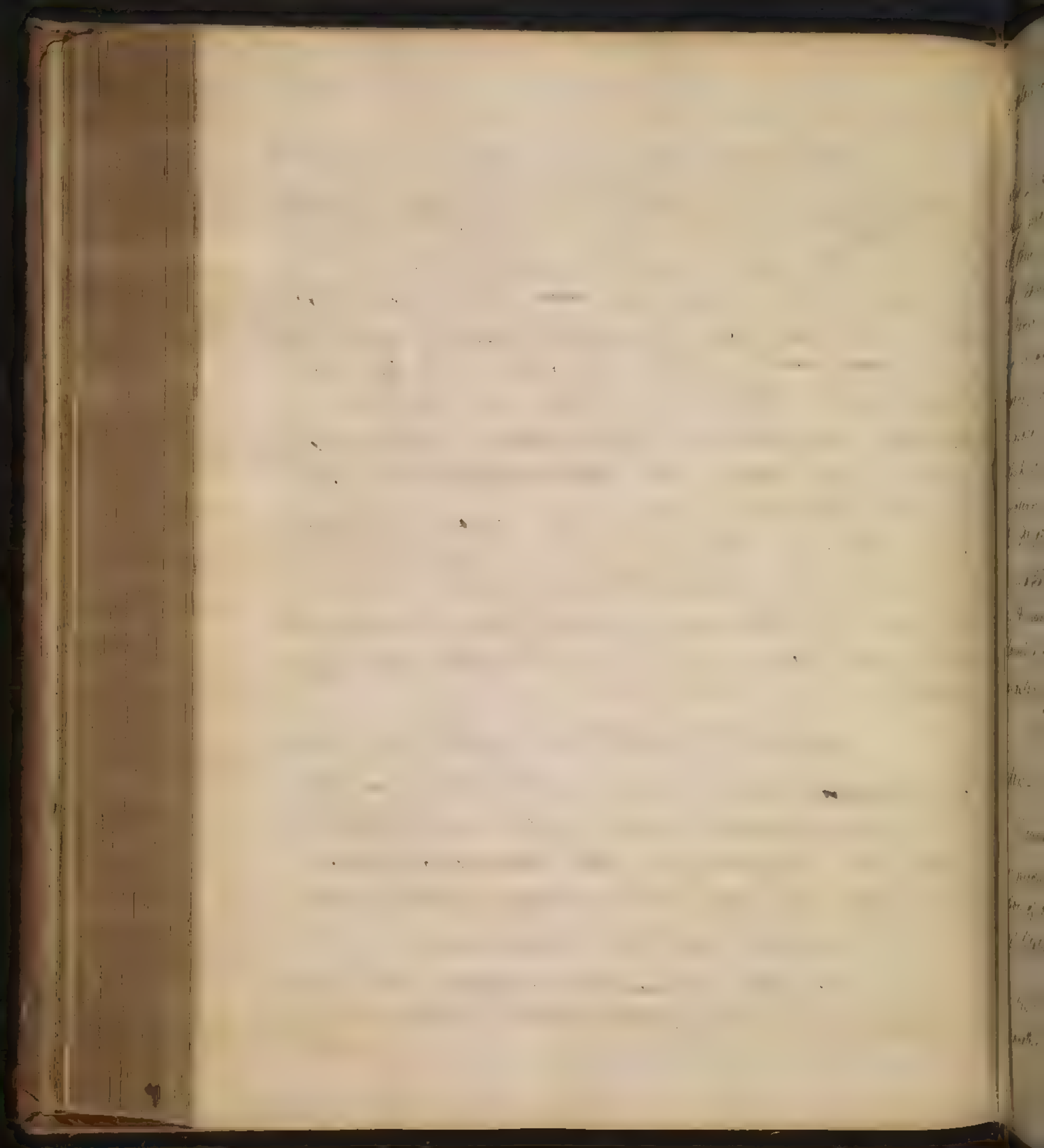


the Animal System.

I said that a weakening of motions depending on the nervous Energy is a sign of that nervous Energy being weak - and attempted to show how, or give a rational of the manner in which, the Spasm is produced by the Debility - But this you may either take or not, as you please, I only regard the fact - And in the next place I say that the hot fit, which Physicians have looked upon as the fever, is an Effect the product of the other two - In short, my Conclusion is, that fever consists of the three states of Debility, Spasm, and Increased action - and that Debility and Spasm lay the foundation of the increased action - and therefore as this last is generally looked upon as the fever, I consider the former as the proximate cause of fever - all this, then, is a short Connexion of facts - You will see the solidity of the Doctrine by going on to the after application -

Afterwards I considered some of the principal sets of Symptoms that occur in fever, and showed how they were to be explained on our System - and by the way showed the Insufficiency of other Theories to do this - and further that they would not agree with the Phenomena - all this, then, tends to confirm ours -

Now, then, I proceed to particulars - We are to consider the distinctions of fever, both as matter, and as explained



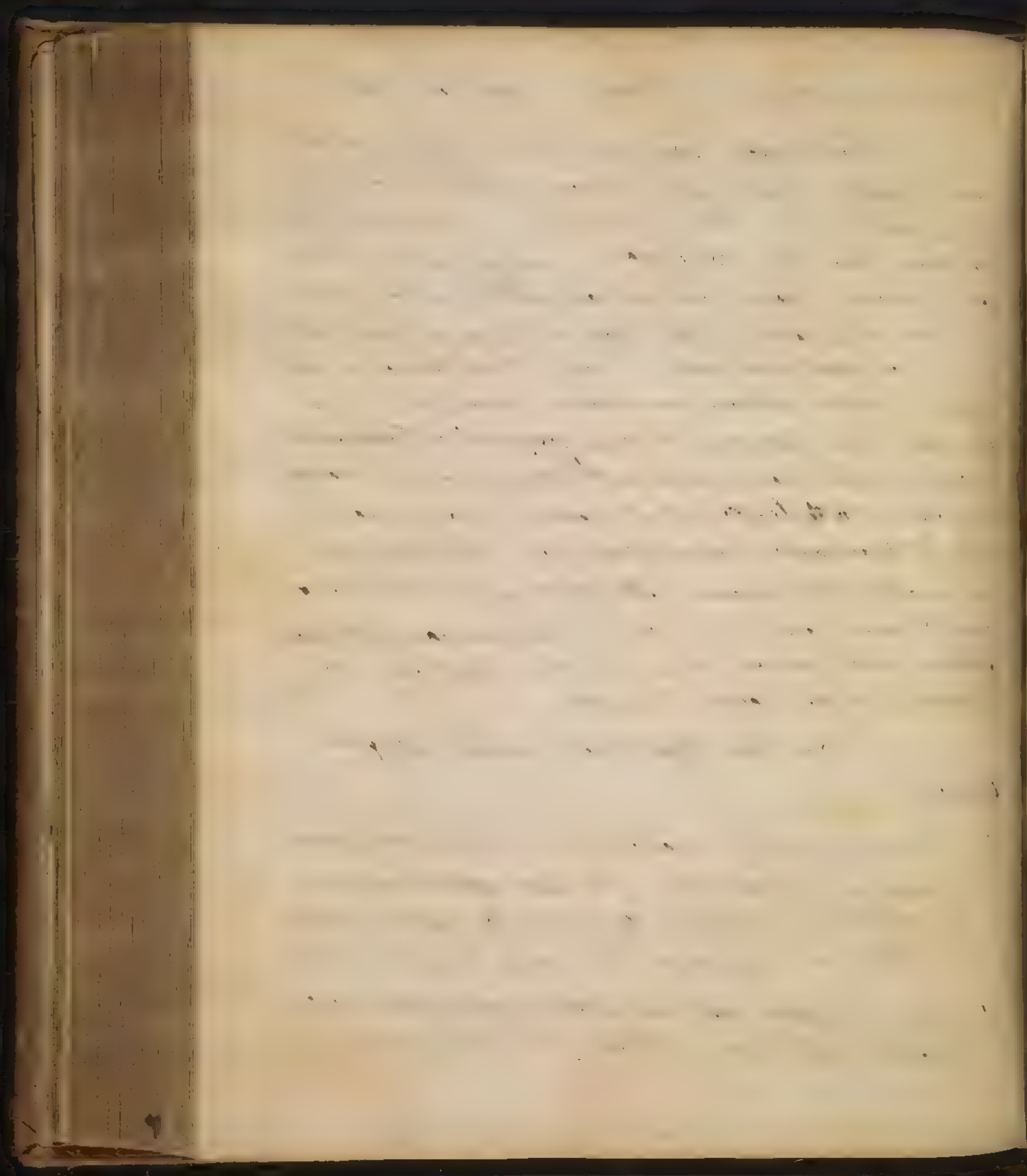
114.

explained on the general Theory we have laid down -

I have before said that fevers consist of the three states, Debility, Spasm. and Energetic action, which successively produce each other - But there is some doubt how far these three states take place in every Pyrexia - The two last, however, Spasm. and energetic action, certainly do - and hence the Character of the Class of Pyrexia which I have given is on that foundation - I say "Post Horrorem pulsus frequens, viribus artuum immixtatis" - Here I might have added "Post horrorem Pulsus frequens" et Calor auctus" by which I should have agreed with the ancient and many of the modern Pathologists - But I cannot by any means agree with Dr Boerhaave's notion (Sept. 571.) - Nor the ancient and many of the modern Pathologists confine the idea of fever to such cases when there is an increase of the pulse following the horror - It is this, then, that forms the Character of the Class of Pyrexia.

Now this Class I have divided into five Orders -

- I. Fever properly so called, that is, where the Spasm is produced by Debility - We have adopted a description of this - *Progressus languore, lassitudine, et alius debilitatis signis, pyrexia sine morbo locali primario.*
- II. Next I suppose that the Spasm may be formed from another Cause than debility, viz, a Congestion of fluids



fluids in a particular part - And this I say may act in a manner somewhat analogous to the Debility of proper fever, and induce Spasm - But we shall say more of this hereafter - This applies to Phlegmasia &c.

III. The third order, *Epanthemata*, is in a manner a mixture of the other two; for here the circumstances of both take place.

Now these are all included under the general title of *Morbi Febriles* by authors - And *Linnaeus* (of Stockholm) in his *Nosology* comprehends them under that title - But you observe that I have added two other Orders of Febrile Diseases, the Hemorrhagias and Profluvia - This is certainly done with propriety - and Dr Hoffman is the only person who has taken a proper view of the active Hemorrhages, and those cases of increased action (Profluvia), which belong to these Orders, and should certainly come under this Class, as being attended with Pyrexia.

I am now entering on what admits of more immediate application, viz, what relates to particular disorders, & distinguish them from one another - There is a set of diseases attended with an increase of the Pulse and of the heat - Such have been by authors distinguished by the Term *morbi febriles*, or fevers, and at all times have been ranked into



into one Class - We are to examine what it is that distinguishes this Class from other diseases, and from all other Circumstances of the Animal Economy. This, as yet, has not been well ascertained - Till very lately the increased pulse and increased heat were the only symptoms attended to in the distinction, as you may see in Boerhaave's Aphorism 541. and Bon Sweet's Commentary on it (which I refer you to).

But it seems now generally agreed that this is not sufficient, but that it is necessary to take in also a preceding fit of horror - In this way, then, I make out the Character of my first Class, "Post Horrorem Pulsus frequens," &c. and as there is likewise in most Cases a considerable loss of strength, to avoid ambiguity there is subjoined "Viribus Minus immixtis" - Besides these, if you please, you may add Calor auctus - To this general Class I have given the name Pyrexia, as I could find none more proper, and as this seemed to me to be in a great measure arbitrary -

This is a very large Class, the particular diseases it contains being very numerous; and therefore before we proceed to speak of particulars it is necessary that we divide it into less general heads -

Accordingly



Accordingly I have divided the Class into five Orders, which in my Opinion are very distinct from each other. To the first I give the name of febris - "Progreſſus languore, caſſitudine, et aliis Debilitatis ſignis, Pyrexia ſine morbo locali primario". This term (febris) is applied by Physicians to all Pyrexia, or our whole Class. But I find it neceſſary to apply it more particularly to this order, and wherever the term is at all appropriated by an author to any particular ſet of pyrexia, it always correſponds to our Character of this, viz, a pyrexia without any Local primary diſeaſe. Whereas the other four Orders are diſtinguiſhed by topical affections attending the Pyrexia - and then are further eaſily diſtinguiſhed from one another by the nature of this topical affection. The Phlegmania have a primary topical affection or Inflammation. The Eganthemata have numerous topical affections following a fever, though there are one or two caſes where there are but few, yet the diſtinction of the Order is ſufficiently plain. And the other two Orders are cauſes of increaſed evacuation following fever. What I was chiefly anxious about yeſterday was to make the application of our Doctrine to theſe ſeveral Orders - I ſhall now, then, diſtinguiſh them ſomewhat in Theory -

The whole Class of Pyrexia, I have ſaid, has ſpasm and horror. The horror, as I formerly ob-
ſerved



observed, signifying or expressing the formation of
spasm - But this arises from two causes - 148.

- I. From debility, as happens particularly in fevers -
and,
- II. From congestion, that is to say, a preternatural
accumulation of the fluids in any particular
part of the circulatory system - This last, I think, wi-
dently applies to the Phlegmasia and Hemorrhagia.
and in Epithemata, where there is a fever arising
from preceding debility, which is followed by total
eruption of Phlegmasia, then seems to be a com-
bination of these two causes - As to the last Order,
that of Profluvia, I have some doubt about it.
They also have sometimes a preceding Debility - But
this is to be considered further hereafter -

Such are our distinctions of the Orders,
by external and Obvious Symptoms, independant of
all theory - But at the same time, if I can disting-
uish them in theory, I shall think it a proof of
this being altogether a natural Class - and conse-
quently that our System gives a division of these
diseases that will be more useful in Practice - I am now
then to consider these Orders in the Cases -

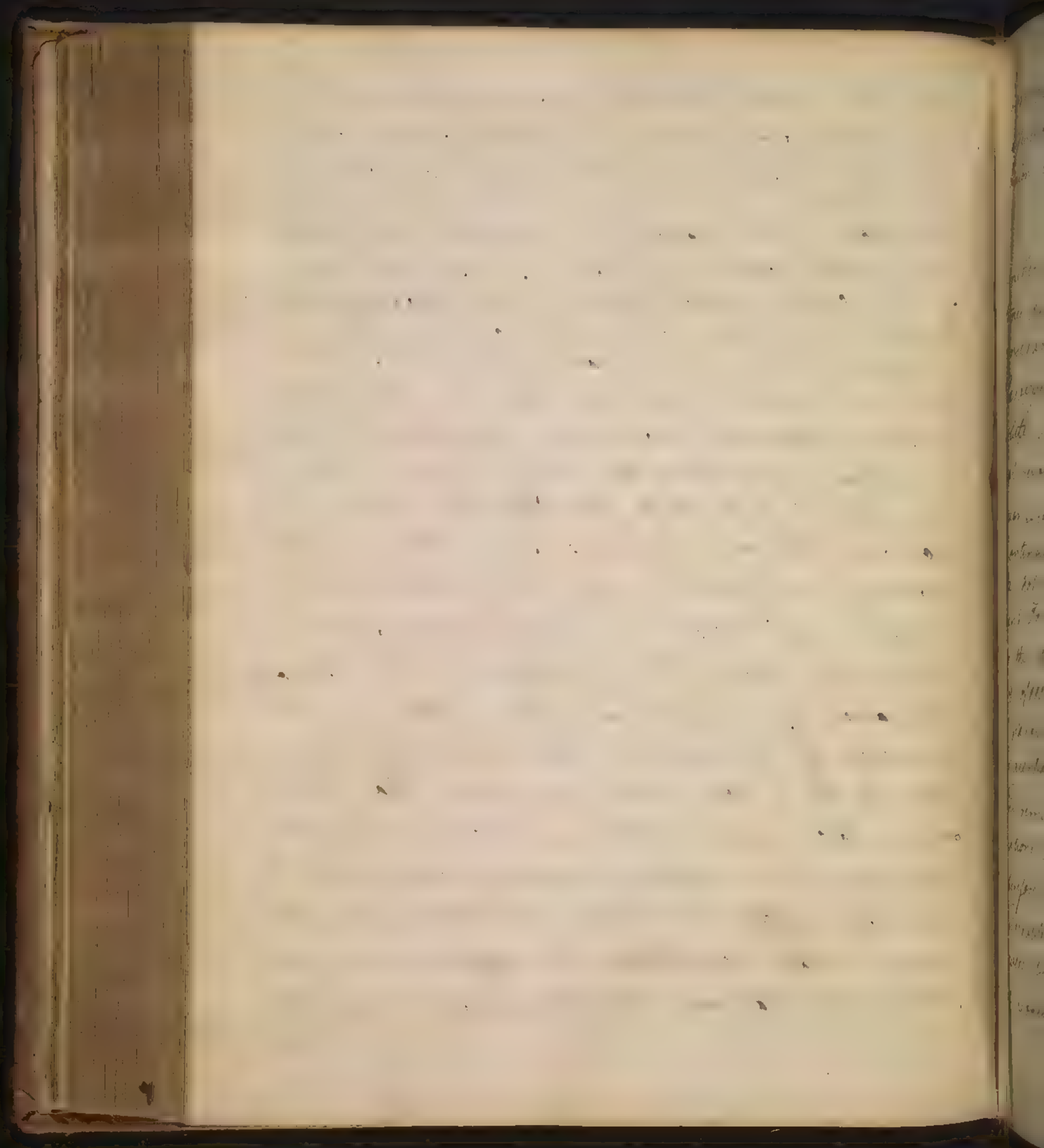
Ord. 1. Febres. (structus dicitur)

Then, I have taken much pains to prove, consist of



of the three states, Debility, Spasm, and increased action, which are Causes and Effects of each other - These three states, though they succeed each other, are yet all of them, in some measure, present during the whole of the paroxysm (except perhaps a little time at the beginning and end). For in the time of the hot fit, notwithstanding the appearance of Reaction, when there is no sweat, or very little in proportion to the increased action, I conclude that the Extreme vessels are still constricted; that is to say, that the Spasm still subsists - and from hence do infer that the Energy of the brain is not restored, at least to the Extreme vessels - But Moreover the same appears from the sense of weakness or Debility subsisting in the animal motions - and also in our Intellectual faculties during the whole of the Paroxysm - It is the continuation of Debility and Spasm that gives the duration of fever; and these still subsisting keep it up - Now when we admit that these three states meet together, we can perceive that they may be in different degrees and proportions in different cases & and this it is, I presume, that constitutes the differences in fevers. Let us see that our Theory always be exactly

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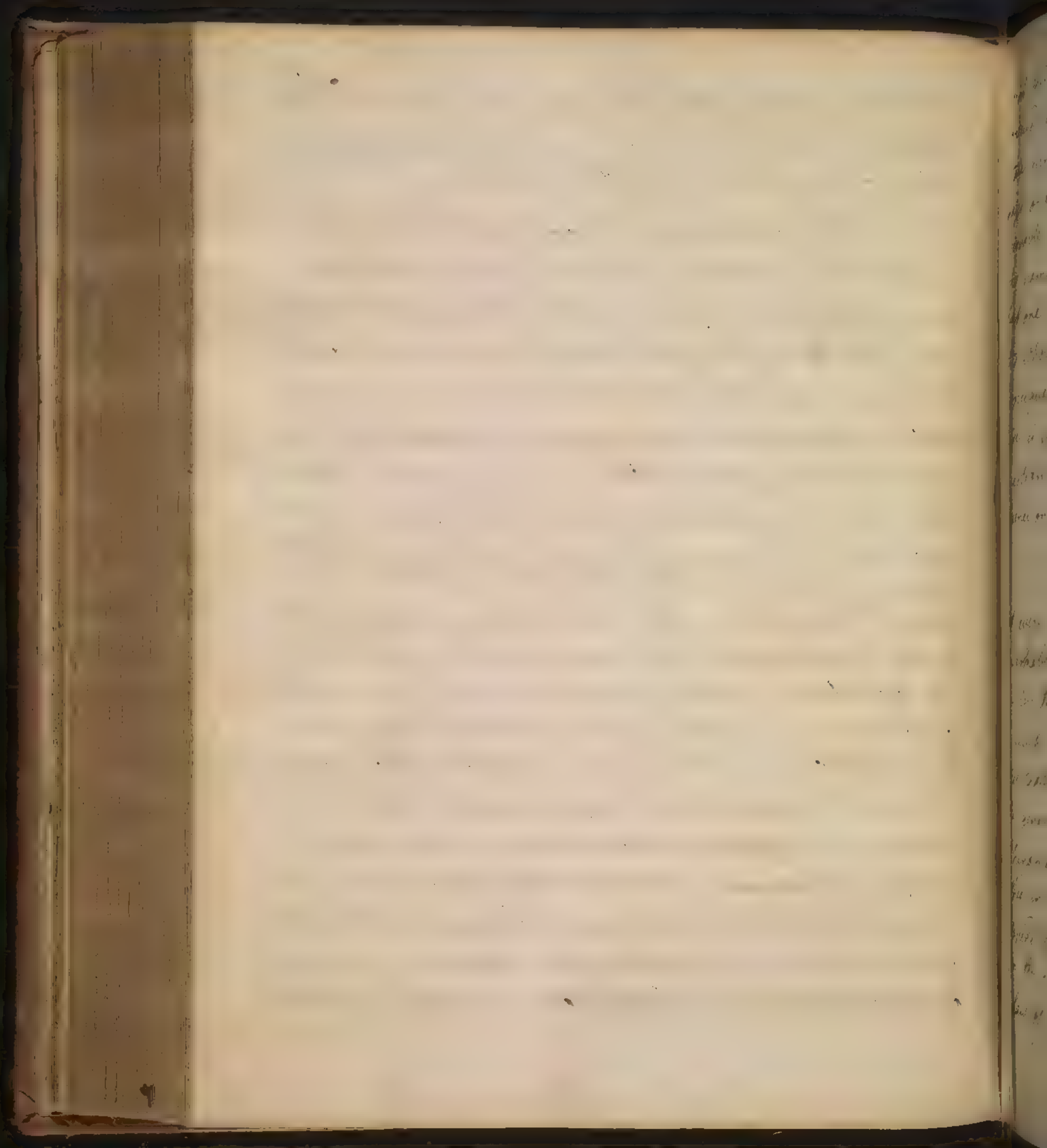


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Correspondent. To facts - We shall be led here to a larger
discussion, which will consist of several steps - Now the
union of the whole will be the Conclusion -

Fevers are most obviously of two kinds, Inter-
mittent and Continued - Thus Physicians have at all
times distinguished them - Intermittents in the strictest
sense are those fevers that consist of a number of repeated
Paroxysms separated by Intervals more or less of ab-
solute Intermision or Apyrexia - As there is a diu-
-nal revolution of our System, we may conclude that
fever will be influenced by it - Now I infer also that
Continued fevers consist of repeated paroxysms, though
the hot fit continues the whole time, and there is no evi-
-dent Intermision - Here, then, they are distinguished
by the Exacerbations that are observed in their hot fit.
99 of 100 have evident exacerbations; and the repetition
of paroxysms in them is to be distinguished by the
Exacerbation, as the hot fit becomes more violent
and remits alternately at regular periods - These Exacer-
-bations in different Cases are more or less evident -
Therefore Physicians, where the Remission is very con-
-siderable and evident, have given the name of Intermittent
fevers, by which they have much drawn in the meaning
of Continueds - Thus they have multiplied distinctions.

But



But this has gone so far that some Physicians have conceived that there is a fever which continues in the same state running through but one Paroxysm in several days, or the whole course of the fever, without any observable remission at all - and to this they have given the name of Continuent fevers, in which they consider but one hot fit, or one reaction, as taking place through the whole course of the fever - This is a matter of consequence in our Pathology, to determine whether there is in fact any such fever - and however the Question is determined, it will have a considerable influence on the doctrine I am delivering.

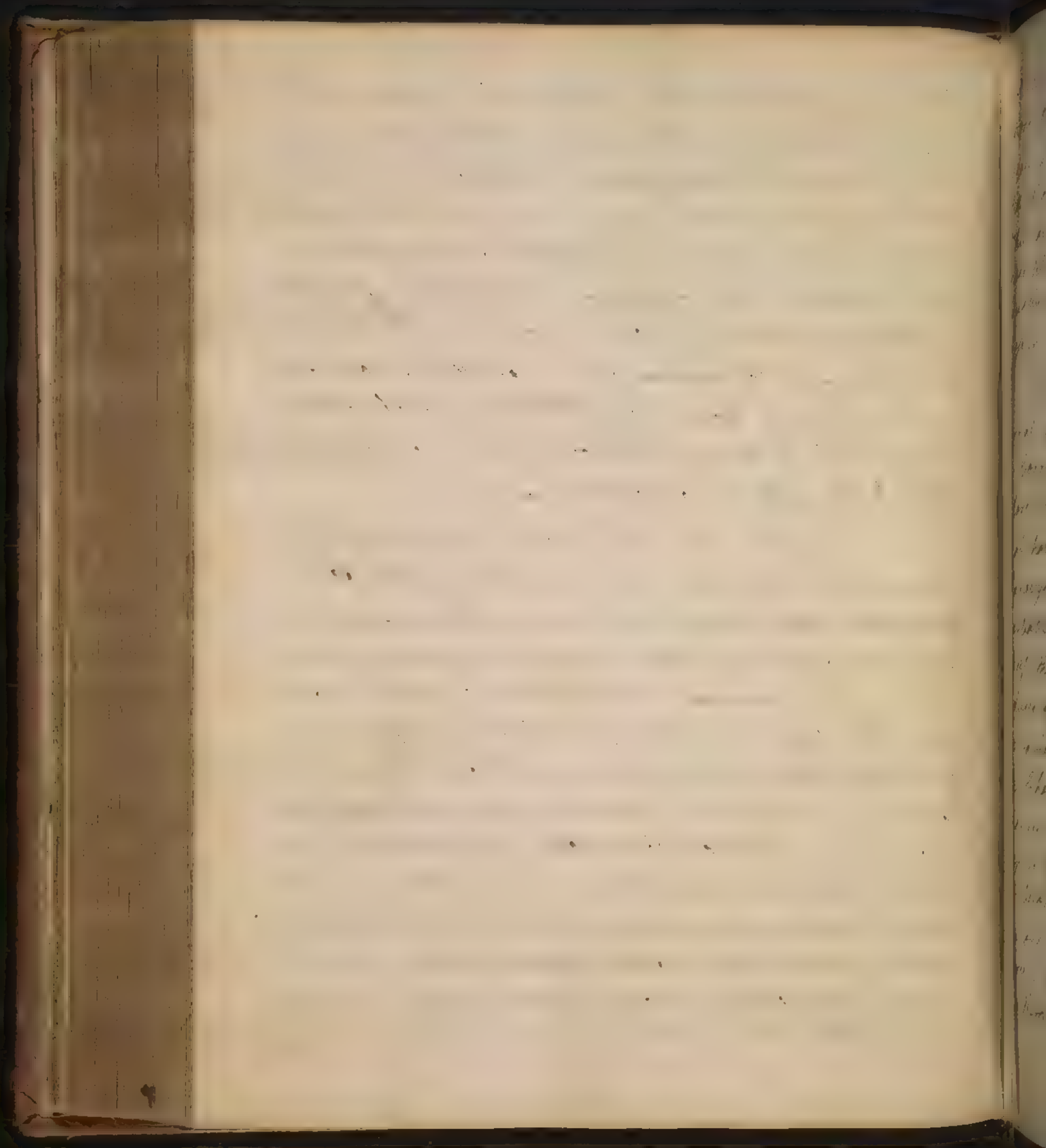
To determine this Question it is to be observed that every Intermittent fever, or a Continued, that has remarkable exacerbations, finishes a paroxysm always in less than 24 hours - Now I do not say that we know so much of the nature of fevers and the Operation of their Causes, as to give a reason for this - But I imagine the general Causes of fever have little share in this Phenomenon of their Paroxysms being always finished in less than 24 hours - It does not seem to depend so much on the Operation of the Causes as on the nature of the Economy itself, or a general Law of the System, by which it is disposed to ex-
-tain



152.

certain diurnal revolutions - Of diurnal revolutions we
see many Examples in the System - And besides we should
be able, a priori, to expect such revolutions, from con-
templating the Causes -; for if we consider the constant
alternate appearances and disappearances of the Sun,
which occasions also a diurnal alternation of light
and darkness, heat and cold - That too of the Moon,
Stars, &c, and the regular return of all our daily actions,
we see sufficient Cause for establishing such a law
or disposition to diurnal revolutions, in a system so
liable to the influence of habit as ours -

But, in the second place, we shall readily
acknowledge this law from considering the facts
themselves, that are observed in our system, and are
Examples of the diurnal revolution of the system -
Such are the diurnal alternation of sleep and waking
-ing - The different states of the Pulse at different times
of the 24 hours (which comes more to our subject; for
scarce any revolution is more regular than that, as you
may see by Dr Brian Robinsons Observations) - The
Pulse is always slowest at rising in the morning,
which is not so much owing to want of Exercise,
as to a regular habit; for though Exercise be used
it will still subside again before noon - It rises
in the afternoon, at dinner time and afterwards, not
- with



notwithstanding Exercise and all the various Irritations the System is exposed to at this time, it falls again about 7 or 8 o'clock - Then it increases again till Midnight, or thereabouts, it rises higher than ever. This last increase I have had occasion to examine - It goes till about two in the morning, and afterwards gradually subsides again to the state of its greatest flow next in the Morning, of which I before spoke -

Here then is an instance of the regular diurnal revolutions of our system - and then we find it correspond to the exacerbations of fevers - and therefore I conclude that fevers are modified by this diurnal habit of the system, and that the repetition of Paroxysms, or the regularity of the Accessions or Exacerbations depend more on the nature of the Economy itself, than on any thing specific in the particular causes of fevers - We shall find a confirmation of the same, when we consider the Ordinary progress of the Changes of the form of fevers - When a Quartan changes its form gradually to a Continued - The first step is to have the Paroxysm lengthened out - Next it becomes a double Quartan, or has a paroxysm on one of the intermediate days which was before free - Then it is triple - and afterwards becomes a Remittent, and from that a Continuent, in which



which there is little or no Exacerbation. He observed ^{154.}

The same is the course of Tertians, when they run into Continents, &c. and fevers of all forms are liable, in the same progress, to pass by different degrees from the most distinct Paroxysms to very obscure ones - now since this is the case, I think we may conclude that it is always owing to the inaccuracy of our Observations that we cannot distinguish the Exacerbations of Continued Fevers, and not to a defect of the repetition of paroxysms in reality. We say, therefore, that there is no such thing as a Continued fever (so called), but that every fever which runs out to more days than one, consists truly of diurnal Revolutions. This conclusion too is certainly a matter of fact - and to excuse my differing here, in some measure, from the Testimony of all Physicians, I observe (what I am very sorry however has really been the case) that Physicians in this have been more ruled by the authority of others, their Predecessors, than by their own Observation. I say most Physicians have in this been directed by a servile regard to authority - and therefore the numerous Testimonies against us have not so much weight as it might seem. It has been acknowledge by Physicians of all Ages, that at least 99 of 100 fevers were such in which we can distinguish Exacerbations every 24 hours * - and in the second

* Brebres dicto Continuis putridis, sive Febres non ^{repe} Te.
Remitt.



place, though there is no setting bounds to Nature (as she seems ever various, and to eye open to exceptions) yet we are daily, as we advance in knowledge, finding greater and greater uniformity in her works upon the whole, and, therefore, every fact that may be brought against this uniformity, respecting the periodical Exacerbations of fevers, may be opposed of Haller -

Thirdly, when a fever rises from distinct to obscure Paroxysms - When an Evident Intermit- tent turns gradually into a Continuum - here we must, I cannot but say, that the Observation is fallacious when it begins to appear as if it have no remission or Exacerbation at all - and to all this I should add, if it can have any weight, the result of my own Observation and Experience with regard to which I affirm that during the course of about thirty years pretty extensive Practice for the most part, I have never yet seen a purely Continuum fever - I never met with one where I could not by attentive observation discern remissions and Exacerbations.* -

Dr

* To this an authority may be added not less positive as Dr Haller, after mentioning the *Law* of diurnal revolutions of the system, says "Ex hac vespertina pulsus frequentia intelligitur quasi in omnibus febribus Continuis, certus periodus et auctis, sub noctem gravior redeat Exacerbatio, ut omnino vis usquam in Europa etiam vedus febris aliqua vere Continuum Typum servet, ut nem remissionibus, et Vespertina intermissione interpolatur."

Element. Tom. II. p. 236.



D^r DeHaen, who is a Physician much engaged in ^{156.} prac-
-tice, and also an attentive Observer, grants the same thing -
(See his Division of fevers Sect. 4. where he gives the dis-
-tinction of them, *Ratione Temporis*) He makes four
Orders of Fevers -

1. Continent Putrid.
2. Continent non Remittent.
3. Remittent. - and
4. Intermittent.

He is sensible however of the
Difficulty that attends the second Order, and has added
a Scholion, in which he says that in reality there
are more called so with propriety. "*Febris dicta Con-*
tinua putrida, uve febris non remittentis exquisita ita-
duine quanta; cum Omnes, ratione mutatae atmosphaerae
mutatae dictae aut in mutatorum animi affectio-
num ipsiusque aduentantis noctis, Symptomata quisquam
imminuto auctore plus minus remittent aut exten-
dant, &c." Then are the reasons he gives to
show that there are no purely Continent Fevers -
and we make use of the same -

Having considered the nature of fevers in
general.



general, we began to take notice of their differences, and, as far as we could, to distinguish the causes of these. We first took notice of the difference between Intermittents and Continueds. Fevers are often distinguished manifestly and obviously into separate paroxysms by evident Intermissions or Remissions. And these Paroxysms are always finished in less than 24. hours. I said however that Physicians have thought that there was a Continuent fever, or one which did not consist of separate paroxysms, but was to be reckoned as having but one Increment or Decrement throughout its whole Course, from its coming on to its going off. But we enquired more strictly into the truth of this, and concluded that there was no such fever. This we were led to from observing the diurnal Revolutions to which our Economy is liable, and from whence all fevers are necessarily determined to have their Intermissions and Exacerbations once in 24. hours. Also as we observe in fevers a gradual passage from the Intermittent to the Continued form, and vice versa, we therefore presume, that if we do not always discover a remission, it is rather to be imputed to the fallacy and inaccuracy of our observation. Further, as an apology for contradicting the testimony of so many Physicians, I took notice of the origin of their Opinions, and the fallacies and prejudices they lie under in making their Observations. And at last in confirmation of my position, I added the authority of Dr De Haen's Observations, and also my own. He says that all



all Fevers sometime or other "plus minus intendunt" by which I use as an Argument against the Continuent fevers of the Schools - Upon this ground, then, I establish a distinction of Fevers into Intermittent and Continued only. The former being such as are distinctly separated into several Paroxysms - The latter obfusely so.

I proceed to take notice of another difference of Fevers, viz, in the Intervals at which their Paroxysms recur. Here we shall enquire into the Causes of the principal forms of fevers.

Intermittents recur in the form of Quotidian, Tertians, and Quartans, in which at least 99 Cases of Intermittents out of 100 recur without Exception - Other forms indeed have been allowed by Physicians, but as these three are so general, we shall confine ourselves to them only - Observe how Mr Senac endeavours to confine the Intervals of Intermittents - He does not think it worth while to take any notice of these other forms, and is even for neglecting the Quotidian, choosing to refer it to the Tertian - But here I do not altogether agree with him - Before we proceed it is necessary to give some Precision to our Terms -

By Interval I mean that Space of time which passes from the beginning of one Paroxysm to the beginning of the succeeding one - and

By Intermission the time which intervenes between



between the end of one Paroxysm and the beginning of the next. Thus the Interval of the Quartan is 72 hours, the Tertian 48, and the Quotidian 24.

Now it is well observed that the paroxysms of the Quartan is always shorter than that of the Tertian, and the Tertian than the Quotidian. From whence it appears that the shorter the Paroxysm is, the longer is the Interval, and consequently the Intermission also.

This suggests what is, perhaps, an Important Conclusion, viz, that the recurrence of Paroxysms is universally connected with their duration. And therefore the particular form they take on, of Tertian, Quartan, or Quotidian, which we have been speaking of, maybe supposed to depend on the duration of the Paroxysm once formed. The longest Intervals being connected with, and dependant on the shortest Paroxysms. And vice versa. This conclusion throws much light upon the difference of Intermittents and Continued; for every paroxysm that is protracted to 18 hours or longer, must from hence have a recurrence at the period of 24 hours. This is a fact - and there is no instance to the contrary; for every fever whose Paroxysms last 18 hours, is universally found to recur at the period of 24 hours, that is, a Quotidian.

Now if any Quotidian has its Paroxysms
pro



protracted beyond 18. or 20. hours to 24, as it must have a recurrence at this period of twenty four hours, and consequently can have no Intermission - It will not appear in the form of a Remittent or Continued fever - Thus by a prolongation of Tertian Paroxysms, they are converted into Quotidian - and then again, in the same way, into Continueds. Therefore I relied in the above Conclusion, that the recurrence or Interval of Paroxysms is connected with, and therefore must be supposed to depend on, the duration of the Paroxysms themselves - and now it is plain that, to account for the different forms of fevers, we must look out for the Cause of the duration of the Paroxysms. In this we can go to ascertain length with great Probability and even Certainty -

But to proceed in the Enquiry - The length of the Paroxysm seems to depend on certain Circumstances in the Cold fit - It has a relation to the degree of Horror and Tremor that arises; for we not only find that Intermittents have in general their horror and Tremor more considerable than Continued fevers, but it is also well known that the Quartan (whose Paroxysm is shortest) has the horror and Tremor in the Cold fit more
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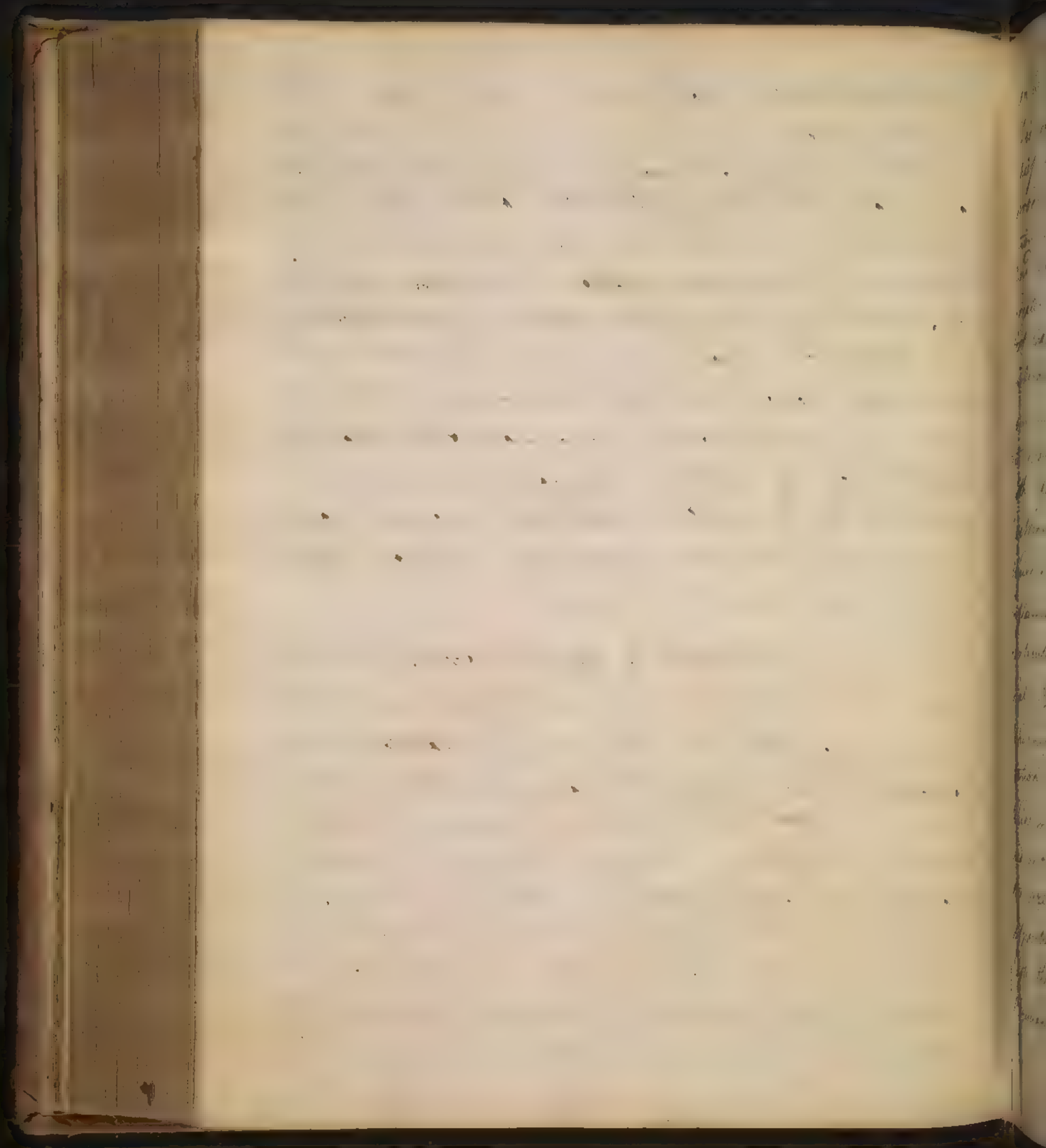


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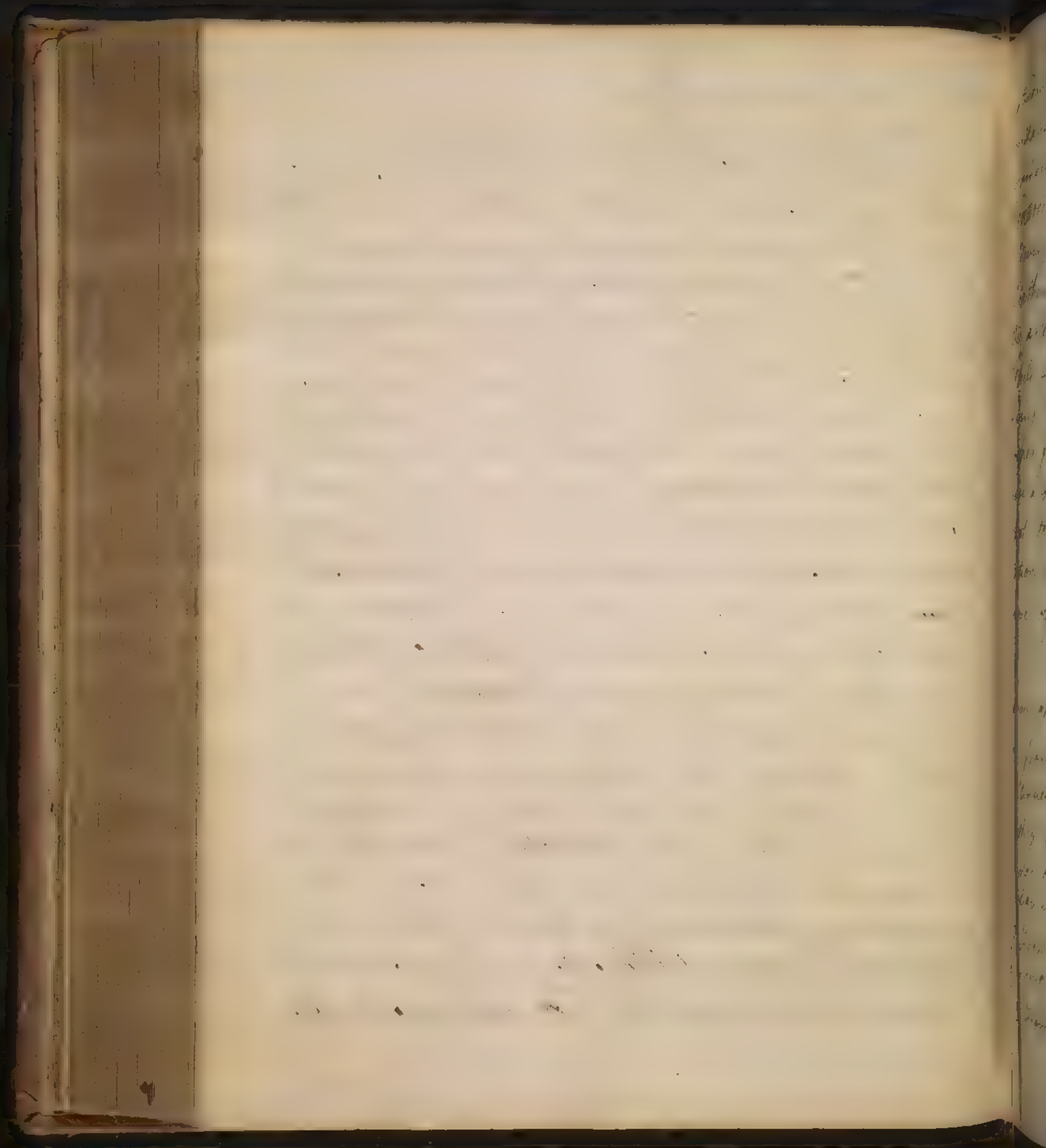
considerable than what occurs in the Tertian - and
this again than the Quotidian - We conclude therefore
that the duration of Paroxysms is regulated by the state
of the Cold fit with respect to the Horror and Tremor
that occur in it - And now you see the propriety of
Inquiring into the nature of these Symptoms - We find
them to be Symptoms of the reaction of the System:
and both from I formerly said, and what I now say, we
have reason to believe, that the Horror and Tremor
being more considerable, are a mark of the stronger
Reaction of the System - Therefore, from hence, we
should be led to conclude, that the Paroxysm was short-
er when the Reaction was greater, so as from its force
to give a Solution more easily -

But here a difficulty occurs - For if we
attend to the hot fit only, and Judge from the heat,
frequency of the Pulse, &c. we find that there are
greater in the longest Paroxysms than in the
shorter - i.e. that the Reaction is greater in Quotidians
than in Quartans - Therefore we will say, that the
continuance of the hot fit in Quotidians is not so much
owing to the want of Reaction as to something else
which hinders the Solution of the Paroxysm * - This

* The same cause that determines the fever to Quotidian type, ^{can} determines the duration of its Paroxysms - 13



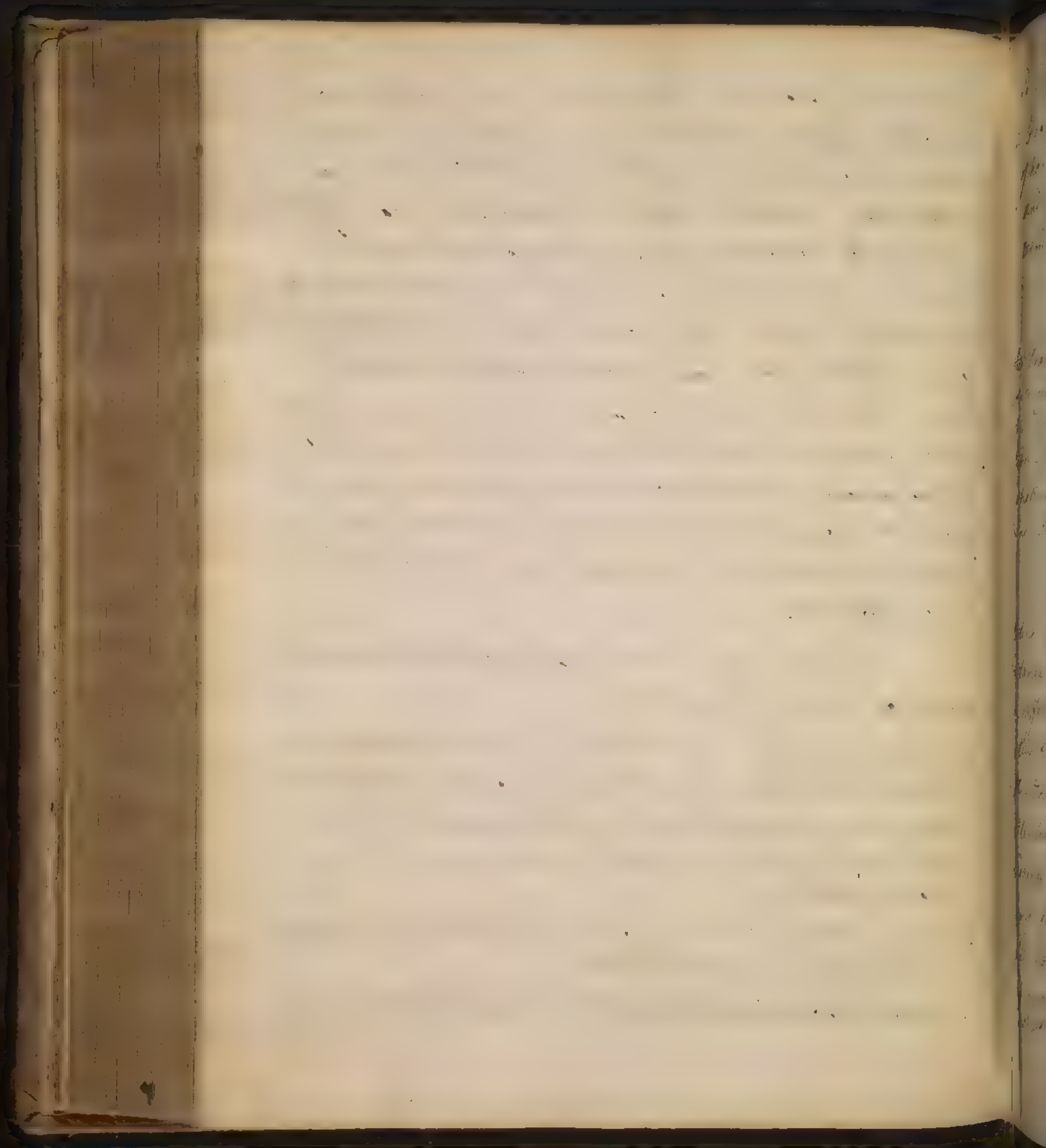
can be nothing else than the Constriction on the surface.
 It is the Spasm on the Extreme Vessels that gives the
 chief of the Irritation to the Sensorium, in order to
 produce its reaction - But the Constriction and Irrita-
 tion it gives, are not always in the same proportion.
 And we can easily perceive that if the Constriction be
 greater than the Irritation it gives, the Paroxysm in
 that case will be longer. And if the Constriction be
 moderate and the Irritation considerable, a short parox-
 -ysm will be produced. But before we proceed, lest
 this should be reckoned Hypothesis, let us compare it
 with facts. This obliges me to anticipate a little the
 Doctrine of Inflammation. Here there is a Congestion of
 fluids in a part, and on this depends the Pyrexia attending
 Inflammation. This Congestion is an Irritation more
 particularly applied, and has peculiar Effect on the arte-
 rial System. What I presume is, that the Tone or
 Tendency to Contraction in the Arteries is by that Irri-
 tation increased; from whence they embrace the
 fluids more closely. They will contract more strongly,
 and more strongly resist dilatation. Upon the whole
 the size of the Arteries is diminished. Now in this
 disposition of the Arterial System I presume con-
 -sists the Diathesis Phlogistica so famous among
 Physicians. This I conclude from the hardness of the pulse
 attending



attending it, from the causes of it, which are various irritations of the arterial system; and from its cure depending on remedies that diminish the tone, as Venesection, which is the most powerful means of relieving the arterial system. Therefore under this Diathesis Phlogistica, or increased contractility of the arterial system, the constriction of the extreme vessels will be more considerable; so that if the cause giving Diathesis Phlogistica mix in any measure with proper fever, the increased tone thereby arising will give a greater constriction in the febrile spasm, so that the constriction will be greater than the Irritation it gives, and consequently the solution more difficult.

That this is the cause of the continued form of fevers, I conclude

1. From the fever of Phlegmasia being always continued; for though by the force of a diurnal habit they may possibly admit of remissions, these are not considerable; and they do not intermit in any case whatever.
2. From the conversion of Intermittents into Continueds from stimuli applied -
3. From continued fevers being the production of cold



Cold Climates, where the Inflammatory Diathesis reigns.

4. From Intermittents being more specially the natives of hot Climates - and
5. and from Blood-letting not being admissible in Intermittents, but very generally in continued fevers -

From these Arguments, then, we conclude that, the Diathesis Phlogistica is a Cause why Fevers put on a continued form, because it gives such a Spasm, wherein the Irritation will be in proportion to the Constitution - But though this is the general state of the Case, I shall now give you my notions of a fever of the continued kind, where the Cause is different.

I said we have reason to believe that a debilitating power is commonly concerned as a Cause in every Instance of fever - But the Debility produced is different in different Cases - Sometimes it is so great as immediately to extinguish Life, without producing fever at all - Thus in Cases of high Contagion, in time of a Pestilential fever prevailing, some persons are often seized suddenly and drop down dead, without having any appearance of fever at all - Others have a slight Cold and horror, but nevertheless die without the formation of a proper hot fit - There are some Cases wherein a hot fit succeeds the horror and Cold, but it does not
Extend



165.

extend to the Extremities, then remaining Cold - Here, then, there is a Reaction of the Brain produced, but it extends to the neighbouring parts only, and affects the heart and large arteries, but not so as to reach the Extremities - and the Patient at last sinks, and in this mixed State Life is destroyed -

In this Case, then, I presume that the Debility is so great as to take off the Irritability of the brain - and though some Irritation takes place, it is not in sufficient degree to extend its Influence to the Extremities - and from hence the fever remains continued - Therefore from either of these two Causes, viz, Excess of Spasm, which hinders Solution; or Excess of Debility, so as to take off the Irritability of the Brain in great measure, depends, I think, the Protraction of every Paroxysm in continued fevers - In pure Intermitents, both debility and Spasm take place; but the Debility is not so great as to take off the Irritability of the Brain - Nor is the Spasm so strong as to resist the Reaction.

But we must proceed to a nearer distinction - There are two Causes of Continued Fever, one wherein with the Cause of fever in general, a Phlogistic Diathesis also occurs, and in which consequently the Continuance or duration depends upon the Excess of Spasm: and

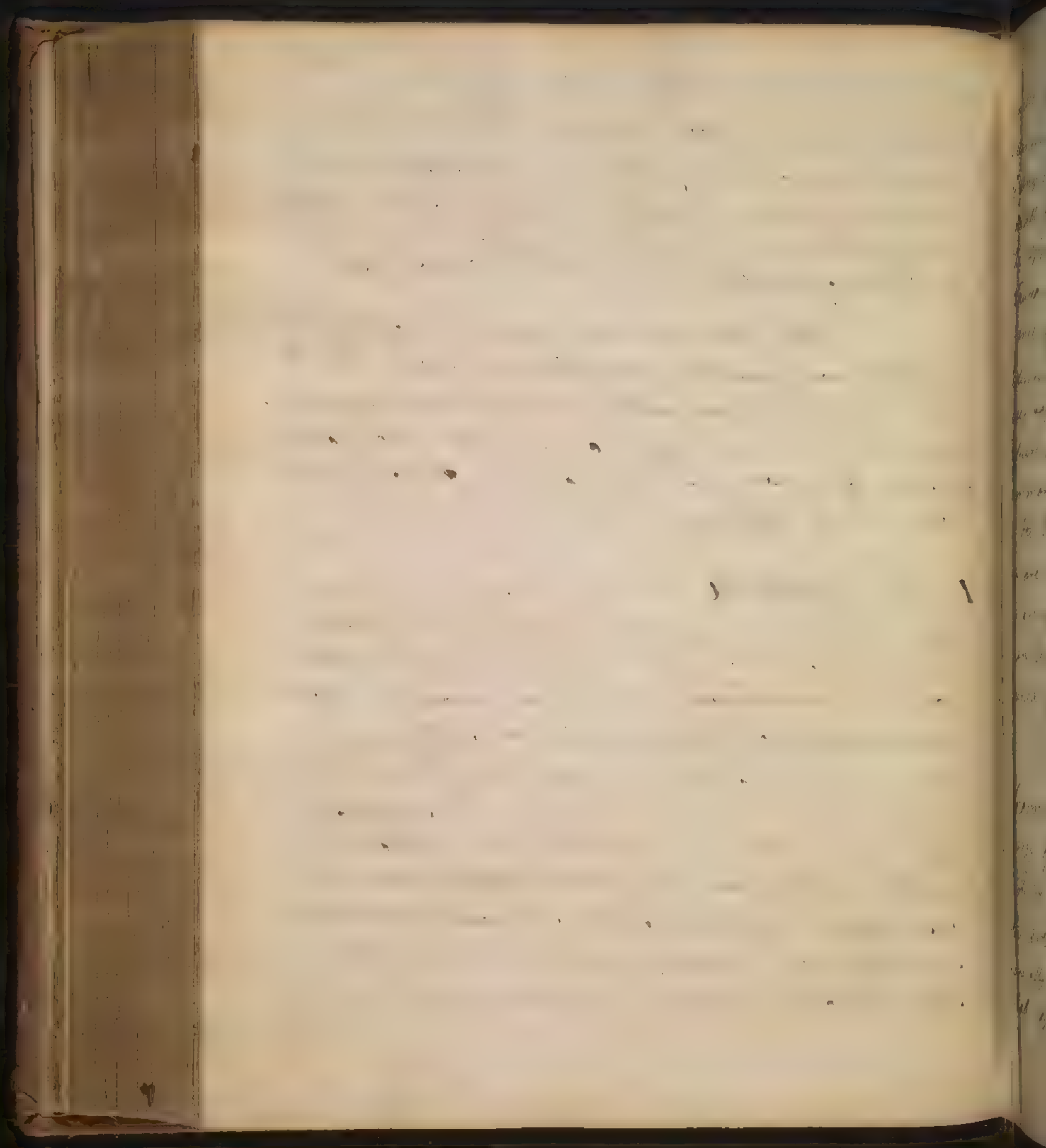


and this Physicians call an Inflammatory fever - 166.

2. There is another Case where the Debility, which is the fundamental Cause, is in so great a degree as to prevent a proper Reaction, by taking off the Irritability of the brain - Here the duration is owing to the excess of debility, and is called a Nervous fever.

This is the principal distinction of Continued Fevers now generally established over Europe, and into which Physicians are getting more and more constantly. Now then we must see how far these two Causes of fever take place, and what are the obvious symptoms which distinguish them.

1. The Synocha, or Inflammatory fever, is peculiar to Cold climates and Seasons - It attacks the robust and sanguine, and such as are predisposed to Hemorrhage - It comes on suddenly without much debility or Languor, Horror or Tremor, or sickness and vomiting in the cold fit - and this is very short - It never arises from Contagion, often from Cold - The hot fit is very considerable, attended with great heat, equally diffused over the whole Body; a fullness of the face, and appearance of Propensity to Sweat - at this time the Pulse is full, strong and quick - a Throbbing is felt in the
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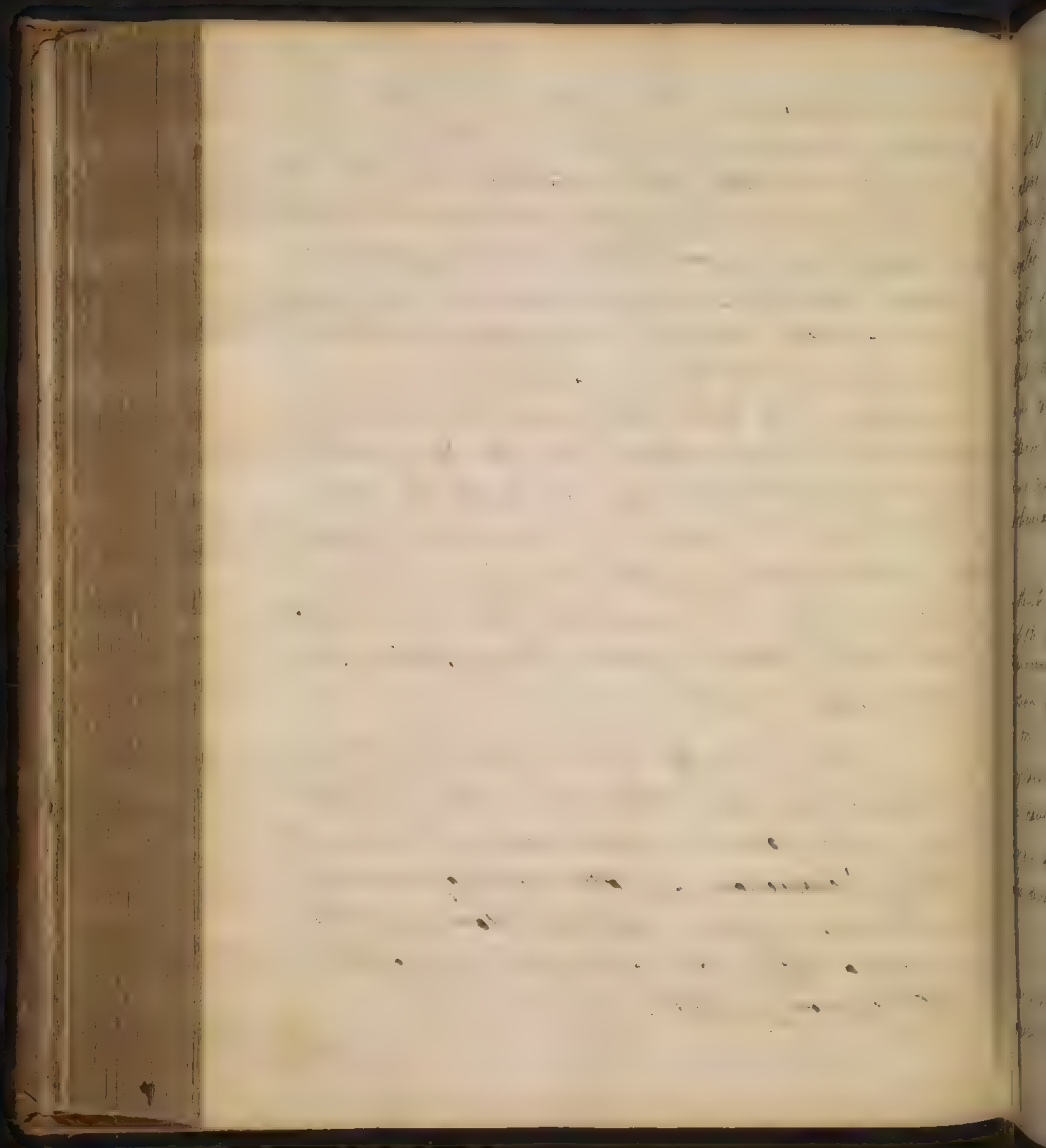


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Temper, accompanied with headache, and frequently
Delirium - The Breathing is frequent with some degree
of anxiety, but neither full nor laborious - Sometimes the
small of the Back, and joints of the Limbs are pained -
The appetite is not quite lost - Seldom any degree of
Nausea - The Thirst is very considerable, and arises from
a sense of heat - The Urine is high coloured, without
sediment - and the Disease commonly terminates in
seven days - The Exacerbations and Remissions are
Obscure and inconsiderable - and the Termination is
commonly by Hemorrhage or sweat, the Urine
at the same time acquiring a Sediment - These
then are the marks of Inflammatory fever, and as yet
they are no where well enumerated - but best in D'Hoff-
man Vol. 2. Pag. 105. under the title of Febris San-
guinea. græcis Synocha.

We suppose this fever to depend on a strong
Spasm, arising from Phlogistic Diathesis, while the
Energy of the Brain is highly excited - It is principally
cured by Venesection, and other means of relaxing
the Arterial system - and the blood drawn has
generally a buffy coat covering it - But of this we
shall say more hereafter.

Gen



General Principles, however general they may be, still have their use in Physic. They at least serve to explode false Theories. Thus Hoffmann's Conclusion in making Spasm the Proximate Cause of fever, might explode the Doctrine of morbific matter, which had prevailed and been reckoned the Cause of fever for several hundred years before. The same might have been the Effect (though it was not) with regard to Ser-ton, of the pains taken by Van Swieten to show that the Cause of Intermitents was in the Nervous System. At the same time, however, unless these Conclusions apply to particulars in Practice, they are not so useful.

We began with distinguishing between Intermitents and Continued Fevers, the difference of which consists in the more or less frequent and uninterpolated recurrence of Paroxysms; for we found that the duration of Paroxysms is connected with the length of the Interval or Intermission. Now, as we have explained how Spasm is the Cause of the paroxysm, we have shewn how it comes to be a cause of its longer duration. But in other Instances the same also depends on a Degree of debility.

As to the first Case we concluded that there was present a Phlogistic diathesis, which gave a greater Tonic or Contractility to the Arteries, so
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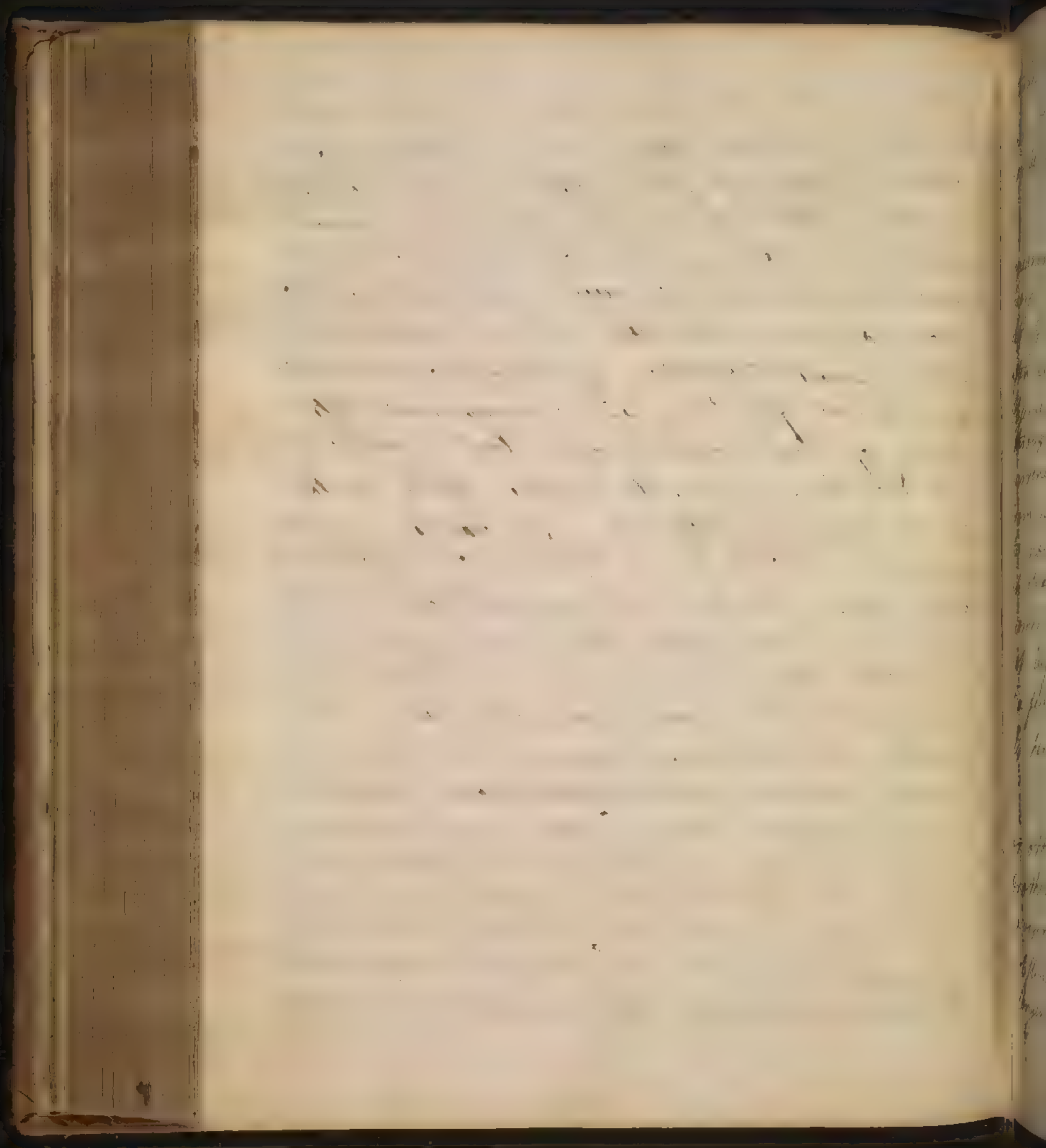
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so as to occasion a more obstinate Spasm, and thereby give a longer Paroxysm - This agrees with fact - As to the other Supposition, it is also very admissible; for though there be nothing peculiar in the Spasm, yet if the Debility be very great, it will also have the effect to protract the Paroxysm, by taking of the irritability of the brain - In this consists the principal difference commonly noted by Physicians among fevers - viz, between the Inflammatory and Nervous fever - We have already considered the former, and are now to relate the Phenomena of the other,

The Typhus, or Nervous Fever. - This belongs to warm Climates and warm seasons, and can commonly be observed to have arisen from contagion. It attacks the weak and such as have been exposed to debilitating causes, and particularly at the same time to the Operation of cold - This fever comes on slowly, and for some days before it appears formally, affects the person with loss of appetite, Languor and Lethargy - With there is commonly combined a sense of cold, or rather a uneasiness to the cold air - This especially attacks towards the evening, with slight horror, which is succeeded by a slight degree of heat, with uneasy and restless sleep in the night - In the morning there are

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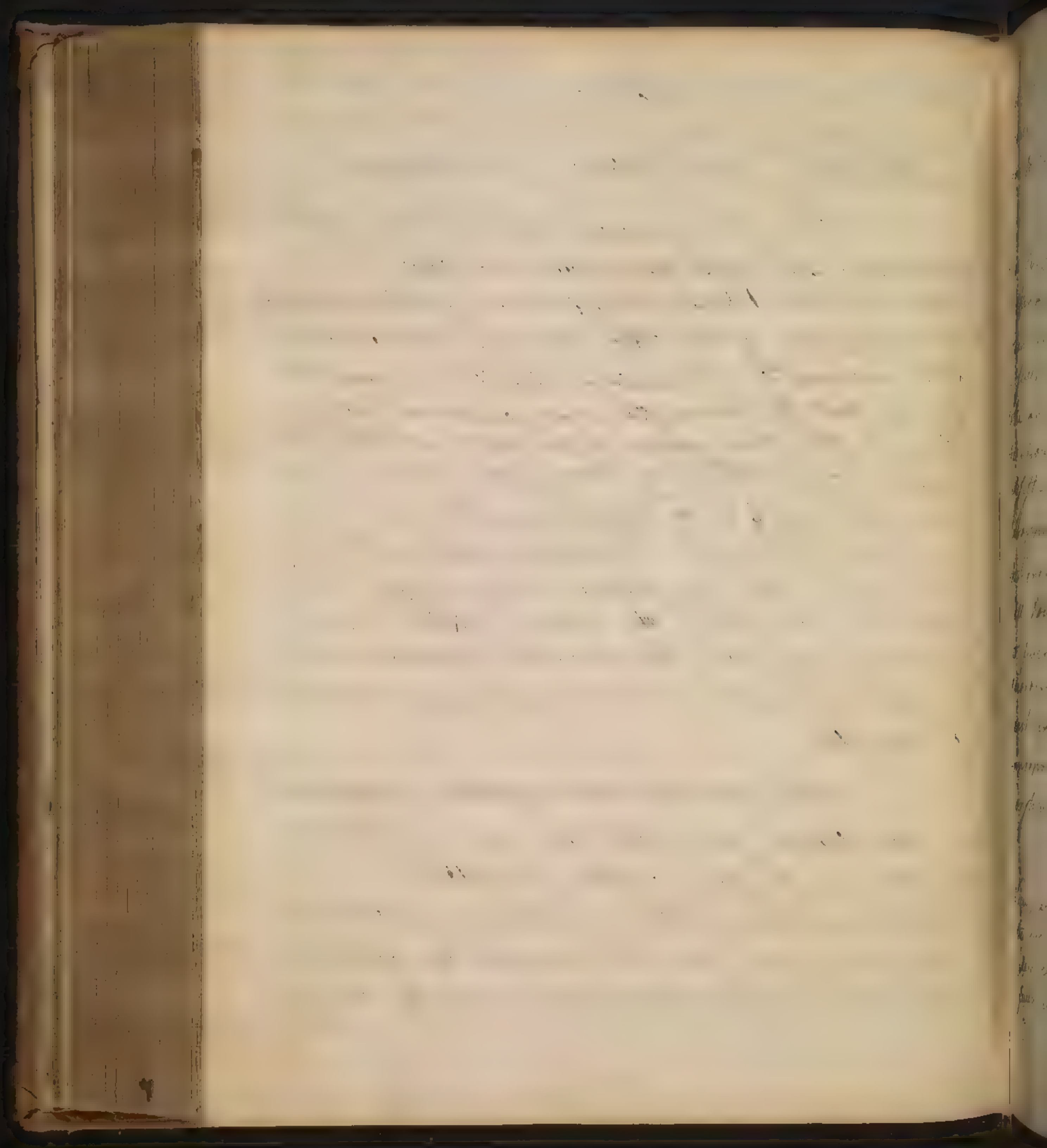
relieved in the Morning; but in the Evening
 the same symptoms again occur, with an aggre-
 -vation of the hot fit - After one, two, or three
 such days as these, the hot fit becomes more remark-
 -able and constant, with a moderate heat, and a pulse
 somewhat, but not very, quick, but neither full or
 strong, and much less hard - With these appearances
 there is great Prostration of strength, or debility of
 the animal functions, and a remarkable depres-
 -sion of Mind - appetite quite lost - Nausea arises,
 and Vomiting frequently succeeds - With all these
 the Patient gets little sleep, and that too is much
 disturbed - Shortly too a Delirium or Typhomania
 takes place - The heat is not great, and often not ex-
 -tending to the Extremities, but unequal over
 the whole body; sometimes very considerable in cer-
 -tain parts - The face is generally pale - Seldom
 flushed, at least in any degree - The Belly is ir-
 -regular, sometimes bound, sometimes loose - The Urine
 is in its natural state, or pale without sediment -
 The Exacerbations at first so evident become more
 obscure - and thus the fever is lengthened out to two or
 three weeks, or more, and terminates at last without
 any visible Evacuation - The Phenomena shew that the
 Sensorium is principally affected, as appears from its dis-
 -turbed



disturbed Functions in the Delirium - Tremor Carpho-
-gia - Typhomania, &c. - and I think all the symptoms
may be explained from a Debility of the Sensorium.

Now if Fevers were tolerable steady in their
appearances, we should have much less difficulty in their
Theory - But the Phenomena of fevers are greatly diversified,
the symptoms of the Inflammatory and nervous being
often intermixed - To explain this it is necessary to
observe that the Circumstances do not remain the same
through the whole course of the fever - But the Re-
-currence or repetition of Paroxysms produces a change
from what exists at the beginning of the fever - From
the power of Reaction becoming greater, or the Spasm
less strong in the repetitions of Paroxysms, it be-
comes able to resolve the Spasm, which it could
not before do - and this gives the natural solution
of a fever, of which we shall speak more particular-
ly hereafter -

But sometimes the repetition of paroxysms,
or other Causes, diminishes the power of Reaction -
Or otherwise the force of the Spasm may be increased,
a vigorous reaction, instead of resolving, giving more
obstinate Spasm, so as to protract the fever to a
longer time, and not to be resolved at all - In which
state



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state it subsist till at last the Reaction ceases, and Death ensues - Thus both Events in the repetition of paroxysms are to be explained -

Now when Fever begins under the form of a Synocha, or Inflammatory fever, and ends in Typhus, I think we can explain it in this manner, viz, that when under the Circumstances of Phlogistica diathesis a fever comes on, we can here see how this comes to take on the form of Inflammatory fever at first while the vigour of the Constitution and Phlogistica diathesis subsist - But afterwards, when by the repetition of Paroxysms the force of the Spasm, and at the same time the energy of the brain, are diminished - We can see as well how the appearances come now to be changed, and the fever in the end put on the form of Typhus - Accordingly this is a very Common Combination, at least in Cold Climates - and to such a Case we have appropriated the name of Synochus - Then therefore constitute the genera of Continued fever -

Further, Fevers suffer changes in another View, as when from the form of a Continued, a fever in the end becomes Intermittent, as in the Example of Pringle's Camp fever - Or when from an Intermittent a fever is changed into a continued, which is by much the

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the most frequent and dangerous Cause of a change in this respect - This latter is exemplified in the malignant Intermittents of Marcatas, Forti, and Elghorn, (as they are called), the same kind of fever which Dr Lind supposes to be the chief form of Fever in the East, where men are exposed to Marsh Effluvia, and also in the West Indies. Now both these can be explained upon the same principles as the other Cases above mentioned - The first comes to pass precisely in the same manner as the Change of Inflammatory Fever into the Typhus - and as to the other it is to be referred to Circumstances induced after the beginning of the fever - We may impute it to a powerful Cause of debility, not at first combined with Phlogistic diathesis, or any Cause of strong Spasm -

There is another Modification to be noticed here, with respect to fever; and that is the multiplication of the Extraneous matter received into the Body, by its acting as a ferment - and this many think of the utmost Importance - Though it appears that the Miasmata, or contagion, in order to produce fever, must act chiefly on the Nervous System - They are likewise often of the nature of



ferments, and as such act on our fluids also - From
^{hence} it is that they come to be diffused and propagated
 among mankind. Now this multiplication of the
 ferment received (though contagion is indeed some-
 times spread without any manifest alteration in
 our fluids) proceeds often to a considerable degree
 of Putrefaction - and this gives rise to the Putrid fevers,
 so marked by the Antients, who made a division into
 Putrid and non Putrid - But the Antients applied
 the word Putrid with very little accuracy or pro-
 priety - and many moderns are not much more correct.
 However the more accurate of the Moderns ap-
 ply it only where there appears some effect of Putre-
 faction & thus the marks of the Putrid state actu-
 ally present are, when the Blood drawn does not
 Coagulate, or at least in the usual manner; when
 the Crapamentum is less firm, and leaves the Se-
 rum of a redish color, resembling Lotus Car-
 niurn - Or when the Blood issues spontaneously from
 different passages, without any local affection of the
 part, as when it flows from the Lungs without any
 preternatural affection of that Organ - Or from
 the Kidneys without at the same time Nephretic Com-
 -plaints

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Complaint, that is, if it comes away with the Urine without any Ulcers, &c. of the parts - Or if it comes away by stool without any Dysentery - But the most common Example is from the Nose, where without giving a Crisis it comes away in drops only, then it is to be imputed to the putrid state - Further when the blood is poured out into the Rete Mucosum of the Skin, forming Petechia, Eribies, &c. - But such effusions sometimes have a deeper seat - also even from the Pores of the Skin - These are supposed to arise from a Putrid dissolution of the blood rather than energetic action, and are Symptoms of diseases of a putrid tendency - Moreover the same are corroborated if there is also a remarkable Fætor of the breath and Excretions, fætid Cadaverous Stools and Urine - and a Cadaverous stench of the whole body -

Now where these Symptoms occur, and only where the most remarkable of them occur, do we admit the presence of a putrid state - The vapour produced in that manner from the putrefaction of animal matters is of a very deleterious, & destructive, poisonous nature, and powerfully tends to induce debility - This appears from the Effect of Gangrene and Sphacelus, which we find to kill so quickly -
also



Also a Gangrene in any part of the Body has remarkable debilitating Effects - and the same we conceive may happen in the advance of Fevers - From the same Phenomena too I conclude that the miasmata and Contagion which produce fever, are of a sedative nature - Now when Debility occurs, or is remarkably increased at the end of Fever, it is a dispute with me whether it arises from a repetition of paroxysms, or the multiplication of the contagious matter, by its acting as a ferment - I must observe that there may be different Cases of putrefaction - The state of the Putrescency and the Consequences arising from it, may be truly owing to a putrid ferment introduced - But Putrescency may also be primarily owing to an affection of the Solids, independent of a ferment, from a cause acting wholly on the Nervous System - But we are not here to attend to these Differences, or consider the matter any further at present - The several genera of Fevers, and more particularly the Typhus and Synochus, may be attended with different states of putrescency in the fluids, which may give a subdivision into Species

I have now laid a foundation for dis-
tinction



distinguishing the Genera and Species of fevers, when
 not complicated with the other Orders of Pyrexia -
 But fever is often joined with Phlegmasia, as in
 Sydenham's Febris Pleuritica, which began the dis-
 ease Constitution of the year 1673 - see his works -
 "Quæ ----- Accederunt" There is a plain proof
 that the fever is the Original disease, from its coming on
 a fresh, and continuing after the other had gone off -
 see the Constitution of the years 1673, 74, and 75. Here
 there is no doubt that the fever was the original dis-
 ease, and that the Phlegmasia supervened afterwards.
 But very frequently there are Cases occurring, where
 it is difficult to distinguish which is the Idiopathic
 disease - and as it is a matter of great Importance,
 some attention ought to be paid to it - It may be
 determined from the following Considerations.

1. From the Season of the year - In the Spring Phleg-
 masia are most common, and rather to be expected.
 While the Autumn is more productive of fevers -
2. As the Symptoms of the one or the other begin first.
 If the Inflammatory Symptoms first take place, we
 have reason to look upon the Phlegmasia as the
 primary disease - If otherwise we conclude it to be
 fever



3 When the symptoms of the two diseases Simultaneous, we can know which is the fundamental only by knowing the disease that are Epidemic at the same time -

4. When the Exacerbations and Remissions are more regular and evident, the fever may be looked upon as the Prevailing disease, which was the case with the Synochus Pleuritica of Sauvages, or Sydenham's Febris Pleuritica, when the fever subsided some time after the Pleuritic symptoms had ceased -

In the next place proper fever is frequently combined with Exanthemata, the third Order of Pyrexia; for there are cases where Exanthemata arise solely from a certain condition of the Skin and state of the fever, independent of any peculiar specific contagion, such as the Small-pox, Measles, &c. are each respectively owing to - an Example are the Petechia, an Eruption that comes out in some fevers. But this indeed I do not reckon an Example - It is most evidently a symptom of some fever - The Miliary Eruption has been attended with more difficulty - It is I think in some cases an Example of the same of the same kind, and has given great disputes in this

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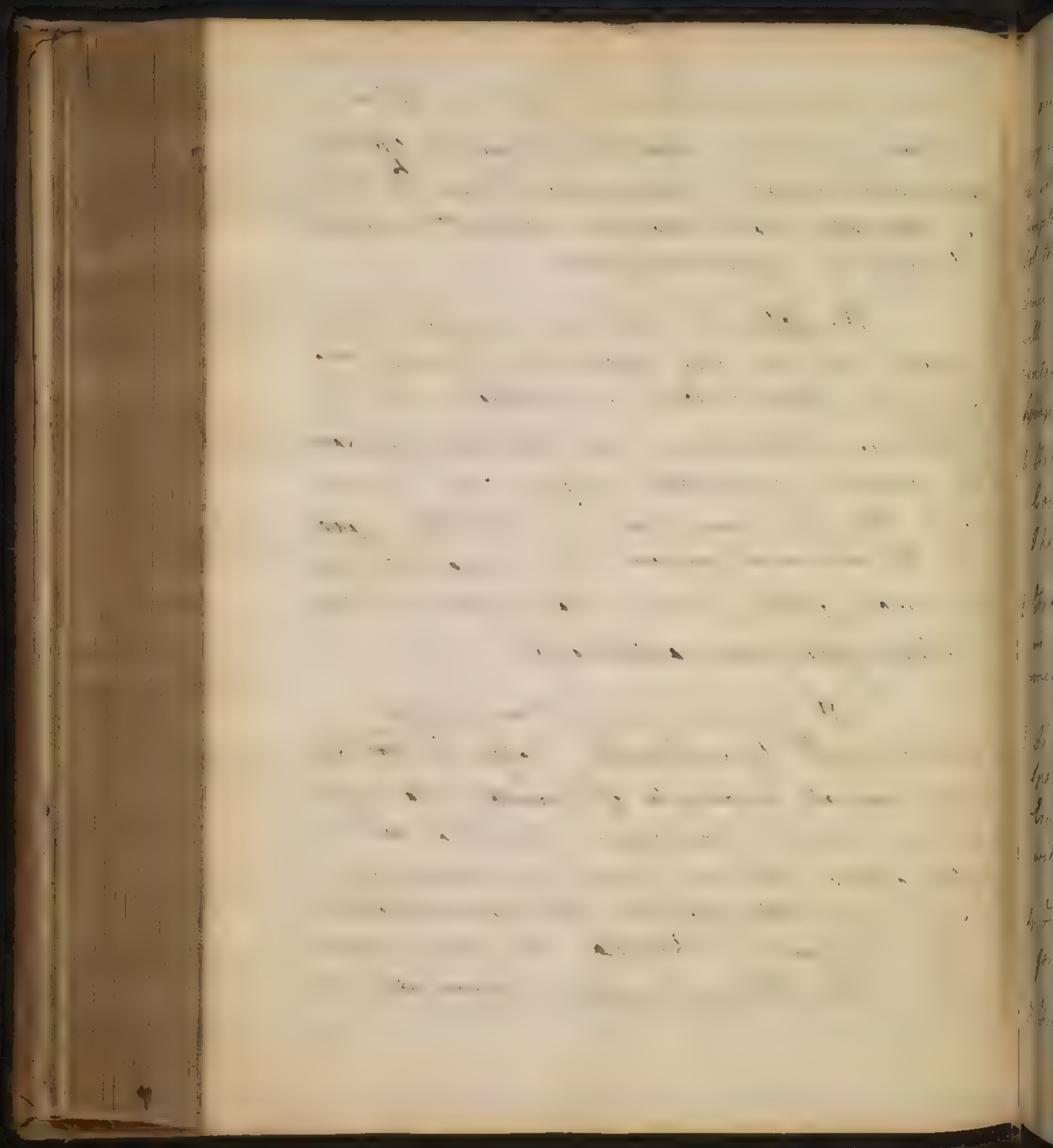
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this view among the present Physicians of Vienna. De Haen maintains that it is always the Effect of fever, and therefore symptomatic; and Dr Noth on the other hand that it is Idiopathic, and gives Character to a particular fever.

We observed that fevers are often complicated with the other disorders of Pyrexia - accordingly we considered them as complicated with Phlegmasia, in which case we said that the Phlegmasia are sometimes a symptom of fever only. But sometimes they are complicated, and the Phlegmasia are the principal disease - Here we cannot discuss this more fully, until we have considered the Phlegmasia more particularly.

We were proceeding to consider fever as combined with Exanthemata. I observed that there were several Examples of Exanthemata arising from a specific Contagion - But that there are also others which are merely Symptoms of fever, only accidentally produced - This has occasioned a warm dispute at Vienna, the particular subject is the Miliary Eruption. Upon the whole we



we are led to conclude that these Physicians are very much in the Spirit of Controversy; for though the Miliary Eruption is undoubted for the most part symptomatic, yet if there be any truth in the observation that the disease first appeared at one port, and from thence gradually spread over the rest of Europe, it will appear to be sometimes owing to a specific contagion - But we conclude that it is most frequently symptomatic

1. From its having always been Sporadic in this Country; for in a course of thirty years practice, I have never once seen it Epidemic.
2. From its affecting chiefly Lying Women, who are in particular Circumstances of the warm Regimen -
3. It arises from a variety of Causes which Operate Sporadically - and also it varies as to the time of the Eruption, which shows that it cannot be connected with any specific Contagion.
4. From its occurring only in a certain state of sweating; for this disease is always preceded by sweating.
5. From its being always produced by sweating in some

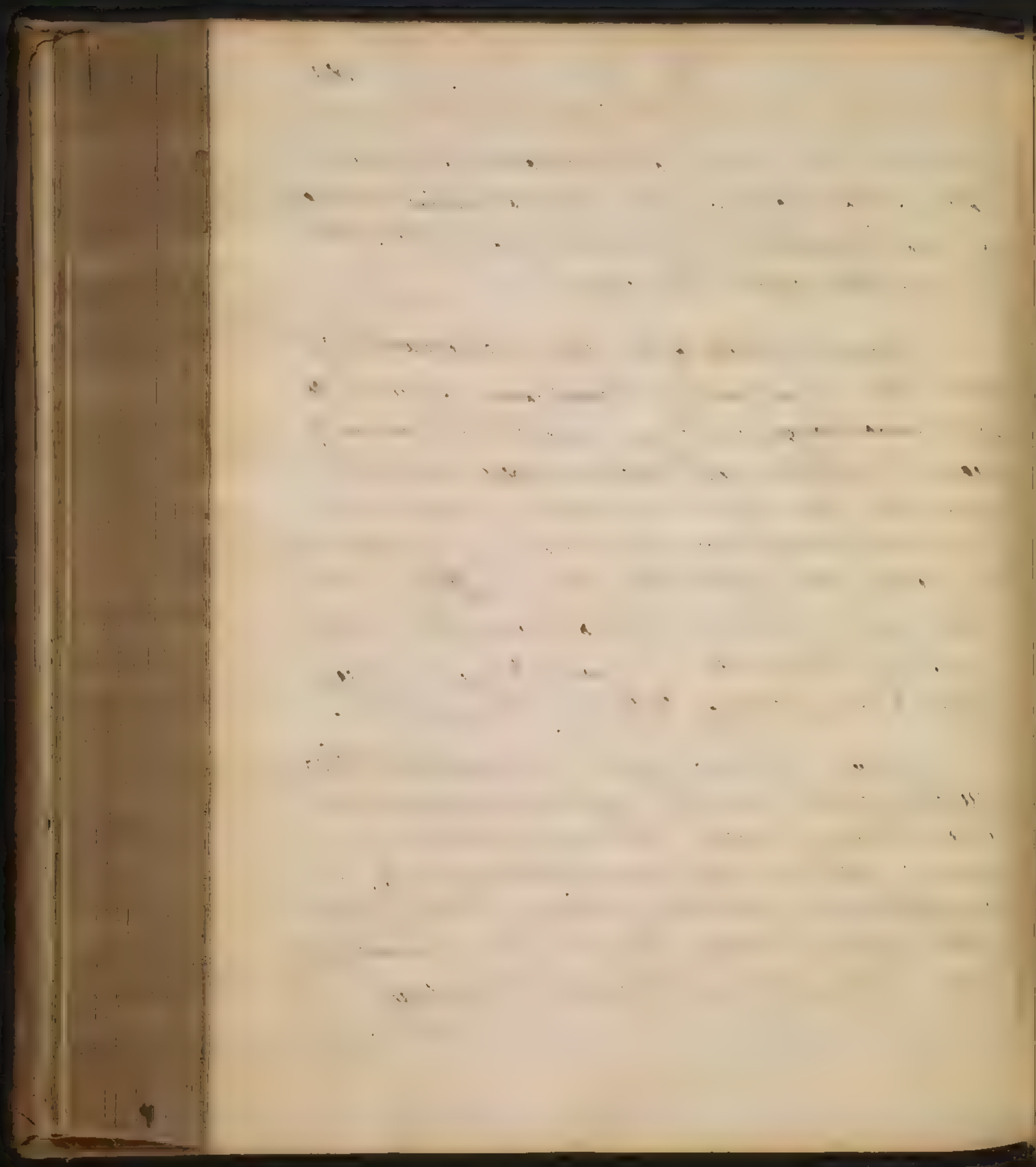


some people - In them, therefore, and because it appears in some fevers sometimes sooner and sometimes later, without observing any regular period, we may say that it is produced by a certain state of the fever and condition of the skin conjoined -

I go on to speak of the other complications of Fever - There is no case of a complication of fever with active hemorrhage, so as to give a particular species of disease - Sometimes such hemorrhages do happen in fevers, but then only as a crisis & at other times when hemorrhages occur in Fevers as a symptom of the dissolved state of the blood, they are nothing else but what properly occur in putrid Fevers, and in consequence of Putrefaction, and cannot give a species different from that of Putrid fever above mentioned.

Lastly, Fevers are often complicated with Profluvia, in which case it is difficult to ascertain which is the primary disease - There are marks, however, to determine this, as with respect to Phlegmasia, and Exanthemata - But the particular consideration of this must be delayed till we come to speak of the diseases themselves, viz, Catarrh and Dysentery -

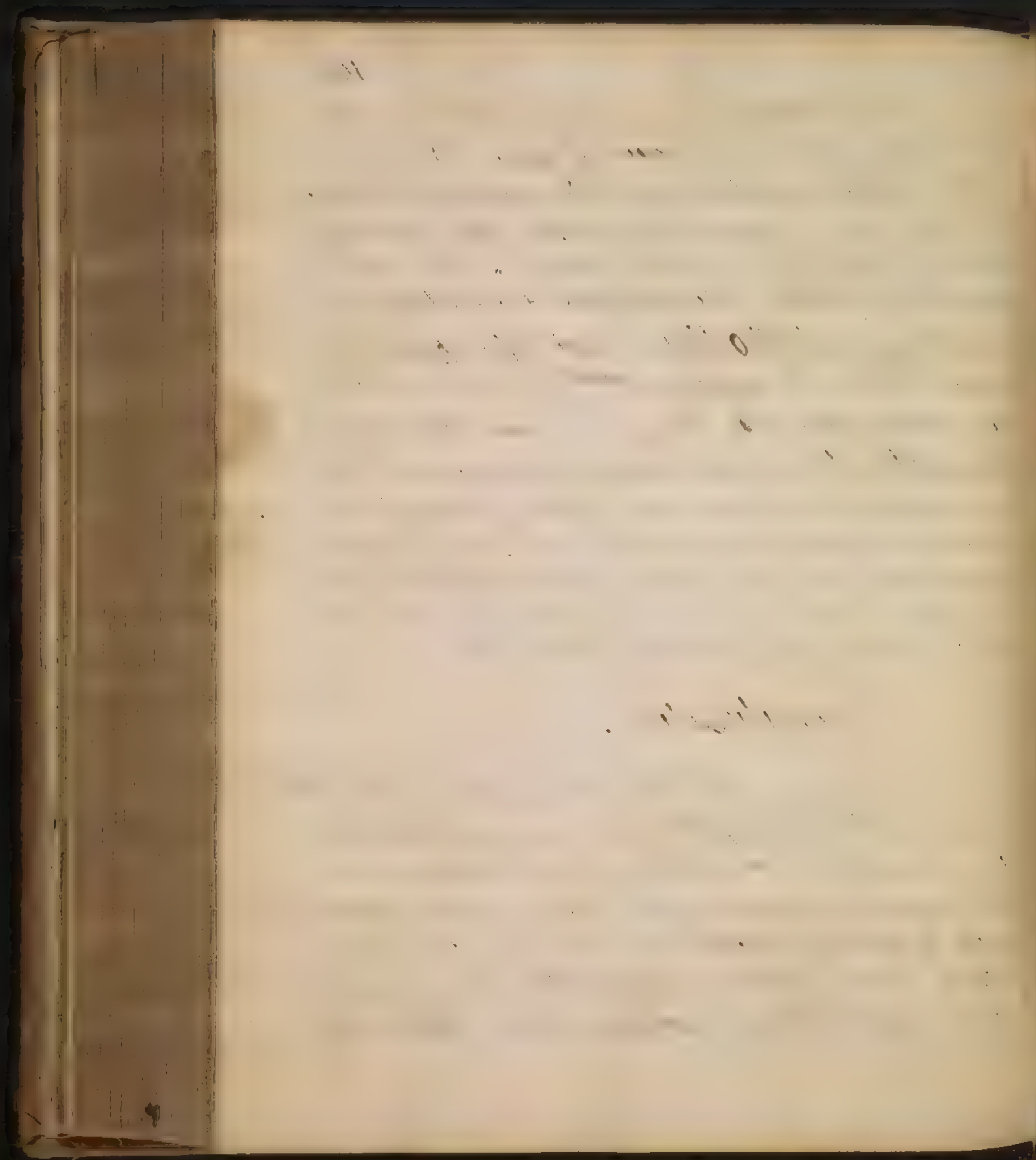
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This, therefore, is our general Doctrine with respect to the Genera and Species of fevers - We have hitherto proceeded, sometimes on Facts, sometimes on theory. But now I am to begin and ascertain the facts only, speaking of the Genera and Species, as they have been delivered by authors - Here therefore it is we begin our *Nosologia Methodica* - But before proceeding to this, I think it necessary that we review what we have already delivered, and give a short Summary or Recapitulation of it, in order to lay down the whole in a more plain manner, as a system of connected and independant parts, that you may the better see through it, and comprehend it - In this Recapitulation I would wish also to touch several parts of our Preliminary Lectures; but our time will not admit of it.

Recapitulation.

I only say, with regard to my general Plan, that I teach the Practice of Physic on a new footing - This does not consist in the Novelty of my Doctrine, but in the manner of delivering the Facts - I reduce the subject to general Principles, which are all so many Facts - Thus I follow a dogmatic Plan, by generalizing on facts; for it is altogether from these that I



I form my general Conclusions - and by this means
 I hope to manifest every thing Hypothetical; for I would
 have you receive nothing but what is confirmed
 by facts, and has its foundation therein.

On this Plan I proceeded in delivering the
 Doctrine of Fevers - I began with laying down the
 Principal and leading Phenomena of Fever - and as fe-
 vers only differ in the frequency and Duration of their
 Paroxysms; you will from thence see the Propriety of
 our taking such an Example, when it is in its most distinct
 form - such as a Paroxysm of an Intermittent fever.

I then went on to speak of their Succession, and the Com-
 binations they undergo in different Cases - But as
 it is almost impossible for me to describe the whole of
 the great variety that occurs here - I referred you for such a
 History to the Authors on this subject, as Sydenham,
 Morton, Hoffman, Senac, Forti, Clegborn, &c - Upon
 the whole, however, I showed you that fevers differ only
 in the duration of their Paroxysms - upon this we proceeded
 to investigate the Proximate Causes of Fevers By
 the Proximate Cause of a disease, I mean that state
 of the body, or its Parts, on which the general symp-
 toms depend - and by changing which we obtain a
 Cure - Thus in Dropsy, the Apparent symptoms are
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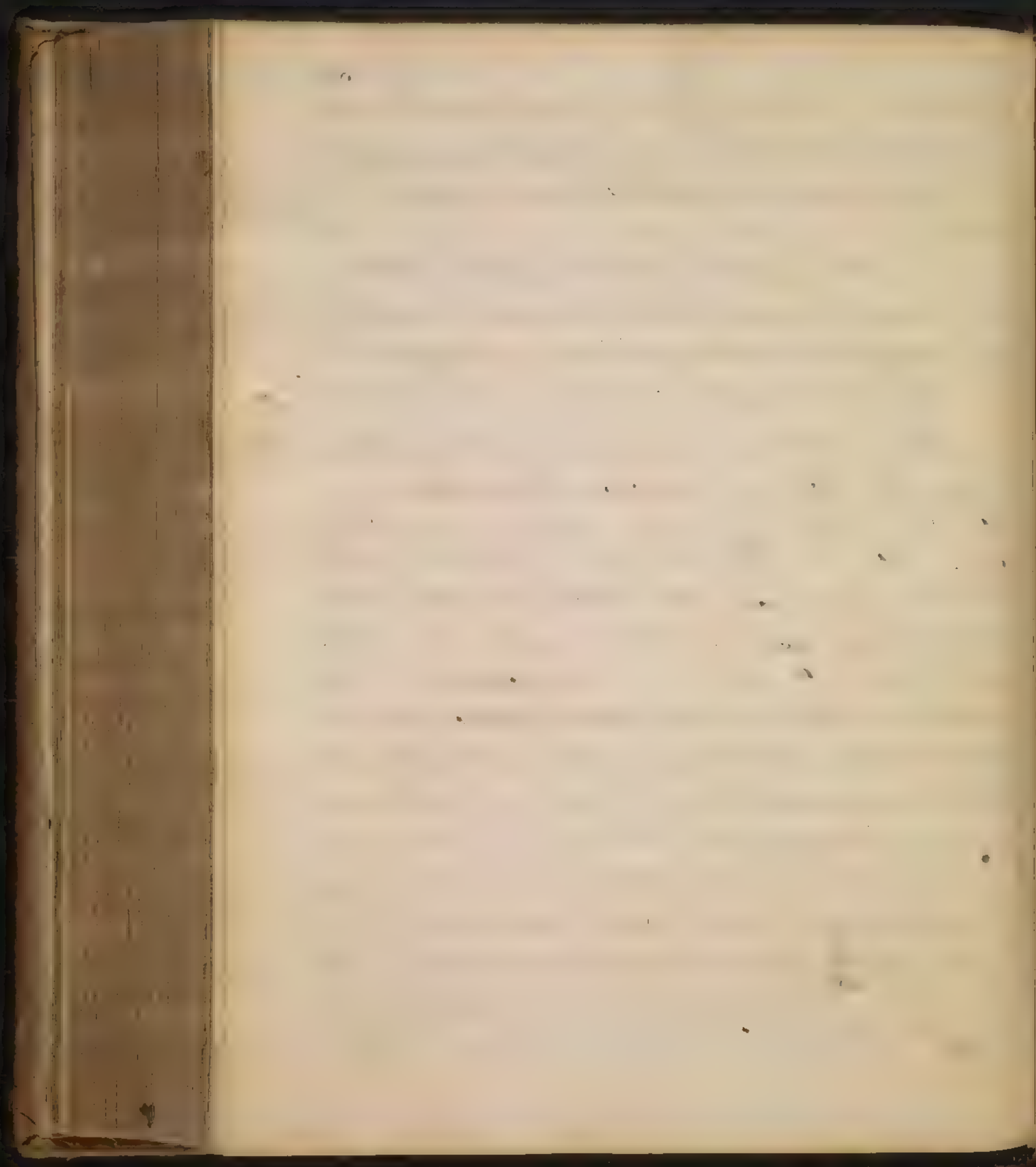
a swelling of the Belly, &c. - Now here the first thing I consider is, whether it depends on a collection of water or of Air. Whether it be an *Aflectis* or *Tympanitis*. after ascertaining this, perhaps I go further, and trace it up to the *Scurrhony* of the Liver. Here then I stop, having discovered the full Proximate Cause, which will direct us in the Cure. - Now in Fever I can in the same way go so far as to say that the Proximate Cause is a debility of the Nervous System. But as to what this Debility is, what state of the Brain, of the Nervous fluid, &c. it depends on, I cannot tell. -

I can go no further than just to say, that there is a Debility which takes place; and in that I have gone a sufficient length to direct my Practice. all the conclusions I formed are matters of fact, and therefore I proceeded on them with confidence. - a principal conclusion was from the above simple Cause, a Debility of the Nervous System and all the Series and variety of Phenomena that follow this, I think we rendered sufficiently probable. Look into the late Author *Mons. Quercet*, and see how he is embarrassed by his having taken up the notion of a complicated Cause. - Also see the same in *Van Swieten* and *Boerhaave*. Besides from many considerations we are led to adopt one simple Cause, to which the whole Series of the
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Phenomena is Owing - This Cause Operating may produce some principal and leading Circumstances in the System, upon which others may be supposed to depend -

Now, as the Cold fit is first in Order of the Phenomena of a febrile Paroxysm, I conclude it is the first in Series of Cause and Effect - and with respect to it, instead of saying with Boerhaave and Van Swieten "in omni Febre Intermittente," I say, with Hoffman, in omni Febre there is a Cold fit in the beginning - In the next place we found that the Cold fit is an affection of the Nervous System, and even Senae, and the several Authors, Boerhaave and Van Swieten, we shewed were inclined to believe in this Position - We then proceeded to enquire wherein the Affection of the Nervous System consisted; and from contemplating the Phenomena, placed it in a Debility of the Nervous power, or Energy of the Brain - This I know as well, and am as certain of, as that when I move my finger I know that it is owing to the contraction of a certain Muscle by my knowledge of anatomy - But I mentioned Spasm of the Extreme Vessels, as succeeding the former in the series of Cause and Effect - This



This is as much a fact, and occurs as universally in fevers as the other - And these two are followed by an increased action of the Heart and Arteries, in which authors have generally considered fever more especially to consist - Now both these last states depend upon the former as their Proximate Cause - So far, then, we have come to an useful Conclusion. We say that in every fever these three States occur, viz, Debility, Spasm, and Increased action, succeeding one another as Cause and Effect - Now to explain how these are produced by one another, I said was very much to our purpose - But all we could do here was to refer to a general Law of the System, viz, the *ΑΥΤΟΚΡΑΤΙΑ*. But I would wish to go further in the Explanation - and as to this I say that, I really believe the Connexion between the above mentioned States, by that Law of the System, is mechanical - We found no difficulty in accounting for the Production of Spasm from Debility - But it is more difficult to account for Increased action. I thought it was illustrated by the Operation of Gold - But neither can we explain how the Reaction is produced by Gold - However I could not omit to take notice of a difficulty



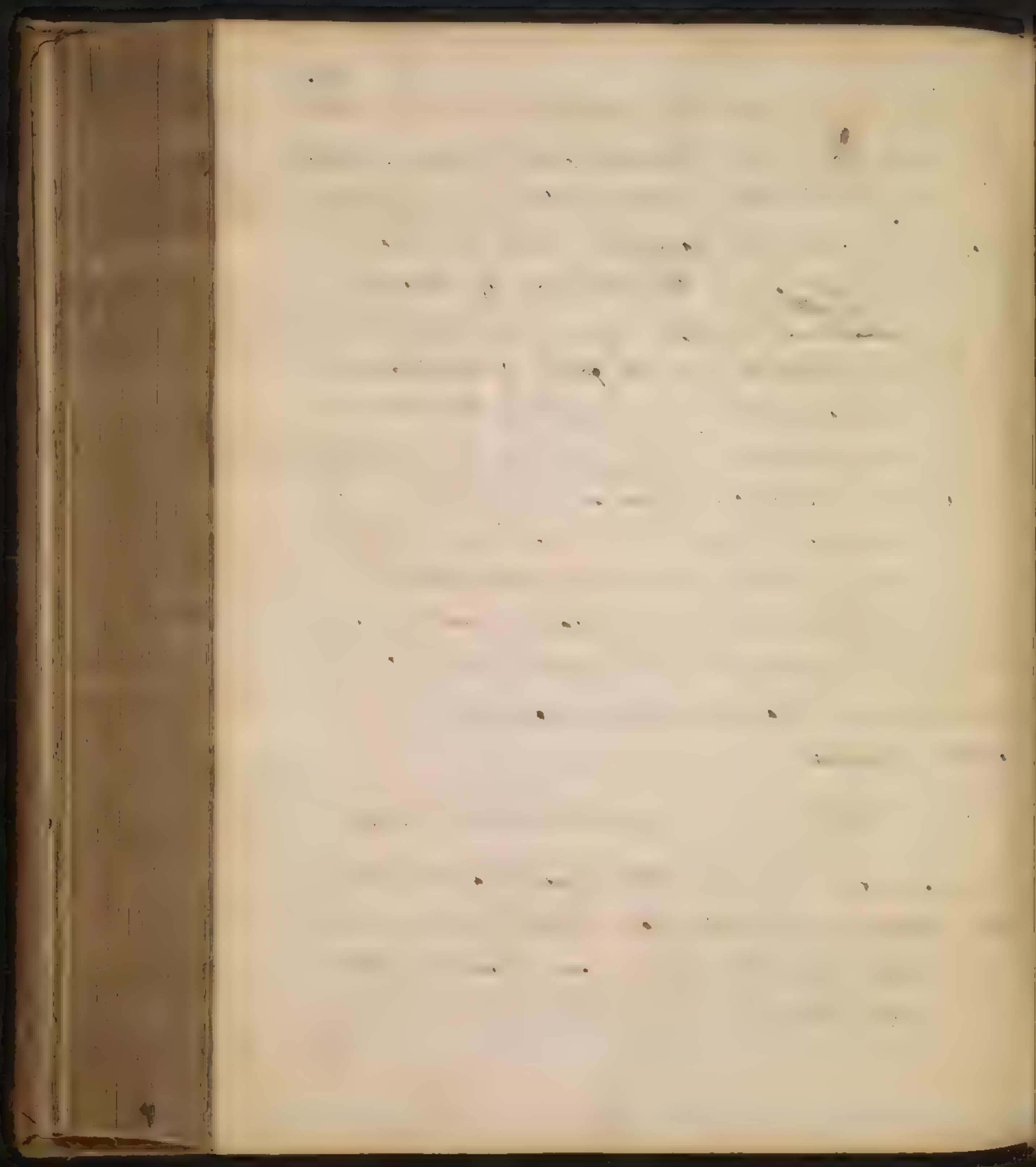
difficultly that occurs here, viz, that it might be imagined
 Fever was owing to a direct Cause of Spasm - But
 where are such direct Causes of Spasm? We know of
 none - But even conclude that the action of Cold produced
 a sense of Cold with a debilitating state, similar or
 analogous to Debility - However, at any rate this can
 be no proof that the cause of Spasm is not commonly a
 Debility; for there are many cases where an evident, pre-
 vious debility takes place, and where the fever arises from
 manifest Causes of Debility, without the action of Cold
 having any share at all in exciting it - This indeed is the
 case with all fevers without tropical affections. But
 whatever there is in this reasoning relating to the operation
 of Cold, it is sufficiently evident as a fact, that debility
 and Spasm do take place in every proper fever - And
 these are the Causes of the third state, increased action.
 This you may take as one of our leading Principles.

In order to make the application of the
 Doctrine more complete, I now proceed in the next place
 to some of the principal Symptoms of fever - and first
 Horror and Tremor - I apprehend these in a new
 light



Light, adhering, however, to matter of fact; and concluded they were a part of the Reaction of the System, and that in proportion to there was the reaction more effectual in resolving resolving the Paroxysm. But here I have gone a certain length only - The duration of Paroxysms is certainly ~~determined~~ ^{Determined}, in great measure (and indeed it is very natural to suppose so), on the force of the Reaction - and this, we have shewn, is indicated by the Horror and Tremor. But still, when we consider the Cases of Phlegmonia we are at a loss - There are certain Peculiarities in the horror and Tremor, but what these consist in we cannot say, but are led to conclude that there are certain Circumstances in the Reaction that is produced, that we are unacquainted with; which however have a considerable share in determining the duration of the Pyrexia -

We proceed next to consider other Symptoms of fever, viz, those regarding the State of the Stomach, Nausea, Vomiting, &c. - These, we found tended also to confirm our Doctrine; for I shewed that Debility might produce them also. of which



which we have instances enough in other cases besides
 Fever. But I shew that there were also other circumstances
 which intervened to produce these Symptoms, i.e., the Spasm
 in the Surface; for they are always proportioned to the Con-
 striction of the Skin. These Symptoms, therefore, not
 only indicate a Debility, but also the Spasm or Constriction
 on the Skin. This led somewhat to the Consideration
 of Sympathetic Affections, from whence we are induced to
 believe (as I have formerly shewn in the Institutions), that
 Debility, or (as I call it) Collapse, is often a Cause of the
 Reaction of the System. I cannot here give a Detail of the
 proofs on which this Position is founded, but for such as have
 not had the Opportunity of hearing my Institutes, I
 desire that they would receive this, upon Credit, that it is
 established upon fact--

Upon this foundation I said, that the Vomiting which occurs in fever is in one light, then
 violent, a bad Symptom, as it shews the force or
 degree of its cause, viz, great Debility. But still I
 maintained that the action of Vomiting itself was by no
 means a bad Symptom, but of a Salutary tendency,
 as it expresses the Reaction of the System.

Now



Now as this vomiting is a frequent symptom, and often attended with a great Effusion of Bile, it has been an Opinion from the time of Hippocrates down to Senae, that the Bile was the Cause of the Vomiting. But depends very much upon the Supposition that the state of the Bile is the Cause of fever in general. Which we have shewn to be without grounds; for the like appearance of a great Effusion and Acrimony of the Bile, especially in the autumnal season, often occurs, without Fever. But it appears that these bilious symptoms are not essential, as being connected with the Cause of fevers, but are owing to Circumstances only - and may be explained in three ways -

1. From the natural change of the Bile, and its disposition to become more acrid and abundant in Autumn, which is always the Case; for the Vomiting of Bile is always most remarkable in autumnal fevers.
2. The accumulation of blood in the System of the Vena Portarum, which always takes place very considerably in Intermittent and Remittent fevers, will sufficiently explain those symptoms. But further
3. We are induced to believe that the Vomiting in Fevers is



is not owing to the Bile, or any direct Stimulus applied to the Stomach, because it is connected with other circumstances, and appears to be produced Symptomatically - and we can explain the appearances we are speaking of from the very action of Vomiting, tending to emulge the biliary Excretories, and thus occasion the greater effusion of it -

And moreover the Opinion of the Cause of Fever being in the Bile is still further Confuted, in so far as we know of another Cause of fever, viz, Contagion and Marsh. Effluvia, which we find to Operate under all Circumstances of the Bile - and also whatever be the Condition of the Bile, it does not produce Fever, unless this other Cause be Present.

I am very anxious that you should comprehend me on this Subject of Fever, on which I have proceeded slowly in delivering it; and hence am now giving you a recapitulation, in which you are allowed to take our general conclusions, while you miss the proofs and illustrations. Thus you will better see the Connexion of the whole.

Upon this plan, then, my principal conclusion is



is, that the whole phenomena of fever, ^(I mean) on these three
 circumstances of the System, Debility, Spasm, and Increased
 action of the heart and arteries. With this farther, that these
 three states regularly succeed each other, as they occur in
 point of time. They also follow each other in the same
 order successively as Cause and Effect. Now these general
 propositions I consider as matter of fact, viz, that they are
 causes and effects of each other; but how they are so, and
 how the one state produces the other, I cannot undertake
 to explain. I cannot give the Reason why the debility
 that occurs in Syncope is not productive of Spasm, and
 the other consequences, such as happen in Fevers. This
 I cannot explain, at least what Conjectures I could make
 towards an explanation are fitter for Private Conversa-
 tion than the Professors Chair. However with re-
 spect to the above Propositions concerning fever, I con-
 sider them as matter of fact; and it is not necessary
 that we be able to give an explanation.

In the next place I was considering the several
 symptoms that occur in fevers. and of these, with respect
 to the affections of the Stomach, I observed that in our
 system, when the action of any part is excited,
 we must not always look for the Cause of it in
 a



a Stimulus applied immediately to that part; but it may be, and often is, owing to an affection of parts at a distance.

To this I might add another Proposition (if you are all prepared for it), which is sufficiently clear, viz. that such Consent of Parts is not owing to any immediate Connection between those parts, but that the one is influenced by the State of the other by means of the Sensorium.

A third particular I would have you attend to, and admit as proven, is that the Causes of excited action of the part are not always direct stimuli - but are often such as are really Causes of Collapse, though they have the effect in some Instances of exciting Action -

Now I say that any Organ of the Body may be affected in this way - It may have an increased action excited in it without the necessity of a stimulus applied to it. Thus when a secreted fluid is poured out in greater Quantity, or in greater acrimony, it is not the greater quantity or greater acrimony of the secretion that is



It be looked upon as the cause of the affection, but it is the effect - When a Woman from any cause pours forth (what we call) Salt Tears, it is not to be imagined that there was a quantity of these Tears previously collected, and from thence the present effusion - But it is purely the effect of an increased action communicated to the Gland - From a Fracture of the Skull a man, perfectly healthy before, throws up Porraceous Bile - Now this I apply to the Vomiting and bilious appearances that occur in Fevers -

We proceed in the next place to consider another set of Symptoms, those of the Intellectual Functions; with respect to which I shall shortly run over what we concluded - Our conclusions were founded upon some Physiological Propositions - The first of which is (what will readily be admitted), that when our Intellectual Functions are affected, it depends upon causes that make a change in the Nervous system - Sometimes a change in the Circulation may affect the Intellectual Functions - But this is only by changing the state of the Nervous system -

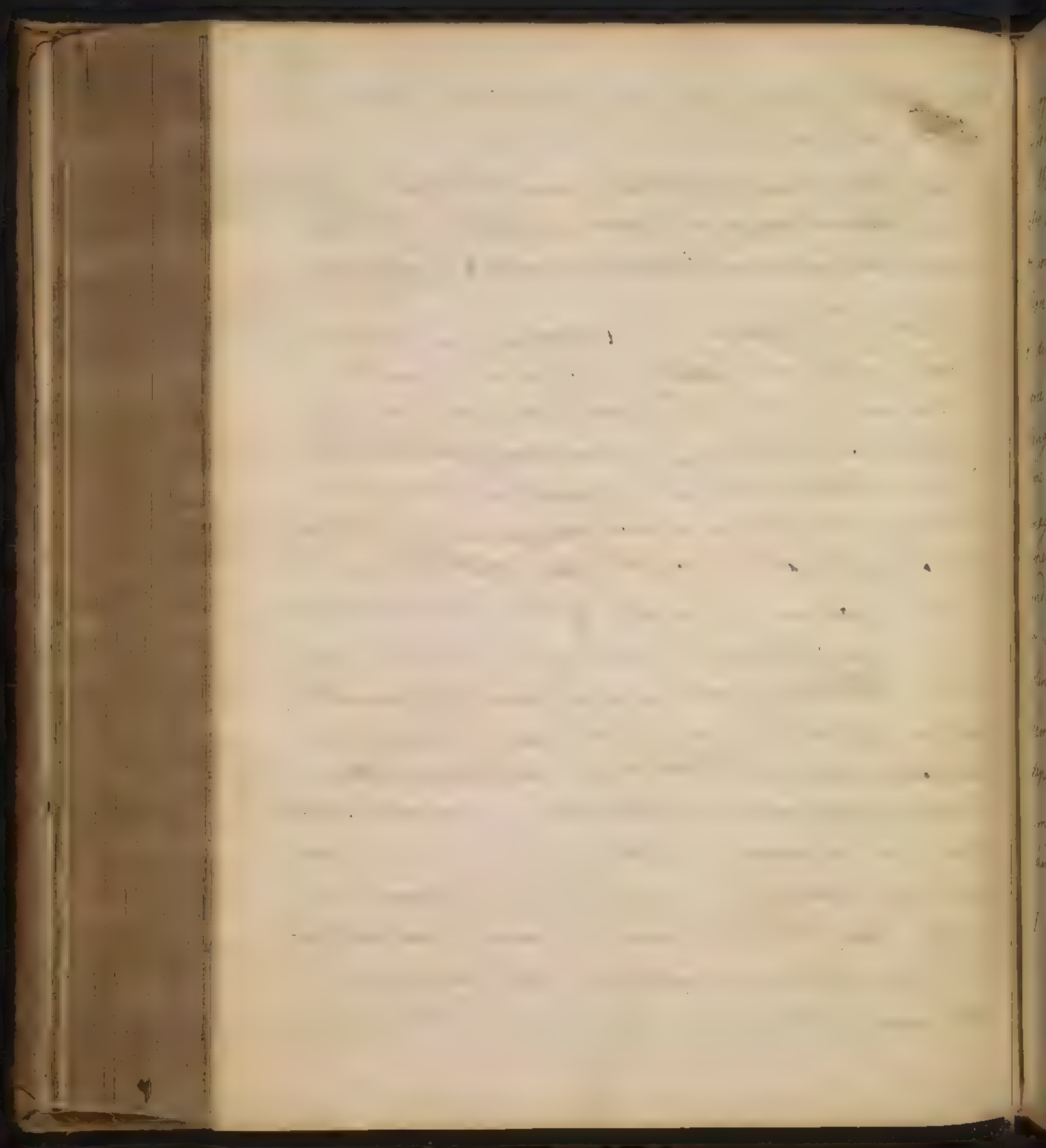
2. I lay it down as another Proposition, that there are
causes



causes which change the state of the Nervous system, by acting directly upon it.

3. That from the action of these causes the nervous system is in different degrees of Vigour and activity, & which we give the names of Excitement & Collapse.

4. That Consistence and Coherence in thinking depend upon an Equality of Excitement over the Nervous system, and particularly the common Origin or Sensorium, which constitutes the difference between the states of Sanity and Madness. In the former there is a free communication between the several parts. I say, therefore, that Delirium depends upon an inequality of this Excitement, which gives Inconsistency and Incoherence in thinking. Of this I think we gave a very plain and easy illustration, by taking a view of the states of Sleeping and Waking, and the Intermediate state between them. For a person does not fall asleep nor awake all at once, but by degrees. and therefore in the Intermediate state we always see somewhat of a Delirium present. For the Excitement in waking does not proceed equally at once over the whole Sensorium. and the same is the case with respect to the coming on



on of Collapse in falling asleep. and hence too we see Incoherence and Inconsistency of thinking in that state.

Upon the same footing we explain dreaming; and also, I think, the Delirium of fevers must be referred to somewhat of the same kind. I presume that in this case the causes of fever operate to induce a collapse, or diminution of the Energy of the brain to a certain degree, which, however, we often see proceeds to the length of Coma, or morbid Sleep; while at the same time the action of the heart and arteries remains; which may be considered, as certainly it is, a cause of Exquisite Heat. Hence, therefore, the Excitement of the brain, under such Circumstances, is in some parts increased, in some in a lesser degree. And from such Circumstances it is plain Delirium must arise. At the same time while we have this general Explanation, depending upon the Debility, or Collapse and Exquisite-ment, we perceive that Delirium may be of two kinds

- I. When the Collapse is moderate and the Excitement of some Parts encreased from the Encreased Impetus of the blood in the Brain: This will give a
Deli



Delirium of the Phrenetic kind.

II. When the Excitement is not great, but considerable Causes of Collapse are in action - This gives a Delirium analogous to that which occurs in coming out of sleep, under the Influence of certain Stimuli; To which state of the System Pathologists have given the name of Typhomania.

This is a short Explanation of the general or leading Symptoms of Fever - and I think it serves to strengthen our general Doctrine - Upon this subject I could not help observing, with respect to the Coma of fevers, that Pathologists, as Van Swieten and others, refer it to the state of the Circulatory Organs - Whereas, if we attend to the time at which it occurs, viz, often in the cold fit of Fevers; and to its being frequently of a Transitory nature, I think we can only refer it to the state of Collapse of the Nervous System, not proceeding from any affection of the Languiferous System, or Circulatory Organs - This is the notion I would give ^{you} of Delirium, ~~most frequently~~ ^{as it most frequently occurs} frequently, and also ^a Coma - But at the same time I do not mean to exclude a third Cause of Delirium, which



which may depend on the State of the Circulatory Organs within the Cranium, or local affection of the Brain.

Hitherto I have considered fever in the abstract, but am now to enquire into its differences. Here we add another Step to the Doctrine. I mentioned just now three states of fever, as distinct, and succeeding each other. But now I say that they all three are present, and subsist together in some degree thro' the whole Course of a fever - and it is the different degrees of them, and the different Proportions they bear to each other, that constitutes the difference of fever. Upon this I began with considering the most obvious difference, viz, between the Intermit- tent and Continued - Here I observed that Physicians have generally reckoned two kinds of Continued fevers, the Remittent and Continuent. But we denied the existence of the latter, both from reasoning and facts, and found that every fever which runs out to a number of days, consists of repeated ~~of~~ Paroxysms, though these are more or less observable as distinct, which is the Circum-
stance



Circumstance that distinguishes Intermittents and Continueds. - Now what is it that constitutes this difference? - We found it to depend on the more or less frequent Recurrence, or duration of Paroxysms: and that these depended on one another: that this is so, though we cannot tell how it comes to pass, is a fact, and an obvious fact; for it is well known that the longest paroxysms produce the shortest Interval, and Vice versa. We are, then, to consider the Cause of the longer duration of Paroxysms -

In this I suspect I was not well understood. We see that when the action of the heart and Arteries is increased by Exercise, it no sooner reaches a certain degree than a sweat flows - and if the Exercise immediately cease, the sweat very soon ceases also, - though the Excretories are thereby relaxed. But this is not the case in fever - Here the action of the Heart and Arteries is increased in the hot fit, in like manner, but still no sweat flows - I conclude, therefore, that here is some resistance to the flowing of the sweat, viz, that there is still existing a spasm on the extreme Vessels, which resist the force of the increased



Increased action, and hinders the flow of the sweat -
 Now if the Spasm and increased action were always in
 the same proportion to each other, we should have but
 one form of fever more or less - But this is not the
 case; for there are two separate causes of the long
 duration of Paroxysms, viz, Excess of Spasm, or a want
 of force in the Increased action - Either of which will
 occasion a long Paroxysm - It is therefore on the
 proportion of these to each other that the duration
 of every paroxysm of fever depends - and as the dura-
 -tion is owing to the Excess of ~~the~~ one, or defect of
 the other, a continued fever receives different forms.
 These are the general Propositions -

But we endeavoured to descend to the par-
 -ticular Causes, wherein the duration was owing
 to Excess of Spasm, or the Increased action not being
 of sufficient force. With regard to the first Case, we
 concluded that the Spasm was obstinate, or in Excess,
 where it was formed on a Diathesis Phlogistica, we
 said consisted in an increased Contractility of the Arteries.
 as a proof of this I observe, that we often see the Causes
 of fever combined with the Causes of Phlogistic diathesis,
 and



and in such cases a continued fever is formed - Thus, when Intermitents are changed into continued fevers, it is owing to causes which give Phlogistic diathesis.

The other case is, where the Spasm being given, the increased action is in too small a degree, so that from thence the Paroxysm is allowed to continue longer - This is owing to Excess of debility, from the powerful sedative action of the causes of fever - We see instances of this where fevers of the longest duration are connected, and, I would say, dependant on a state of extreme debility - Therefore we refer the long duration of Paroxysms in all fevers to one or other of these causes, either Excess of Spasm from Phlogistic Diathesis, or Excess of Debility from the strong sedative action of the causes of fever - and therefore it is evident, that in some cases Venesection may cure a continued fever, in others increase it - In some cases evacuations may change a continued fever into an Intermitent, in others convert an Intermitent into a low continued. This View of the Matter not only gives the difference between the Intermitent and continued form of fevers; but also reduces continued fevers to two kinds.

It



It brings us to the common distinction of continued fevers, established by Physicians, into the Inflammatory and Nervous kinds; the first where a Phlogistic Diathesis is present, the other where Symptoms of debility prevail.

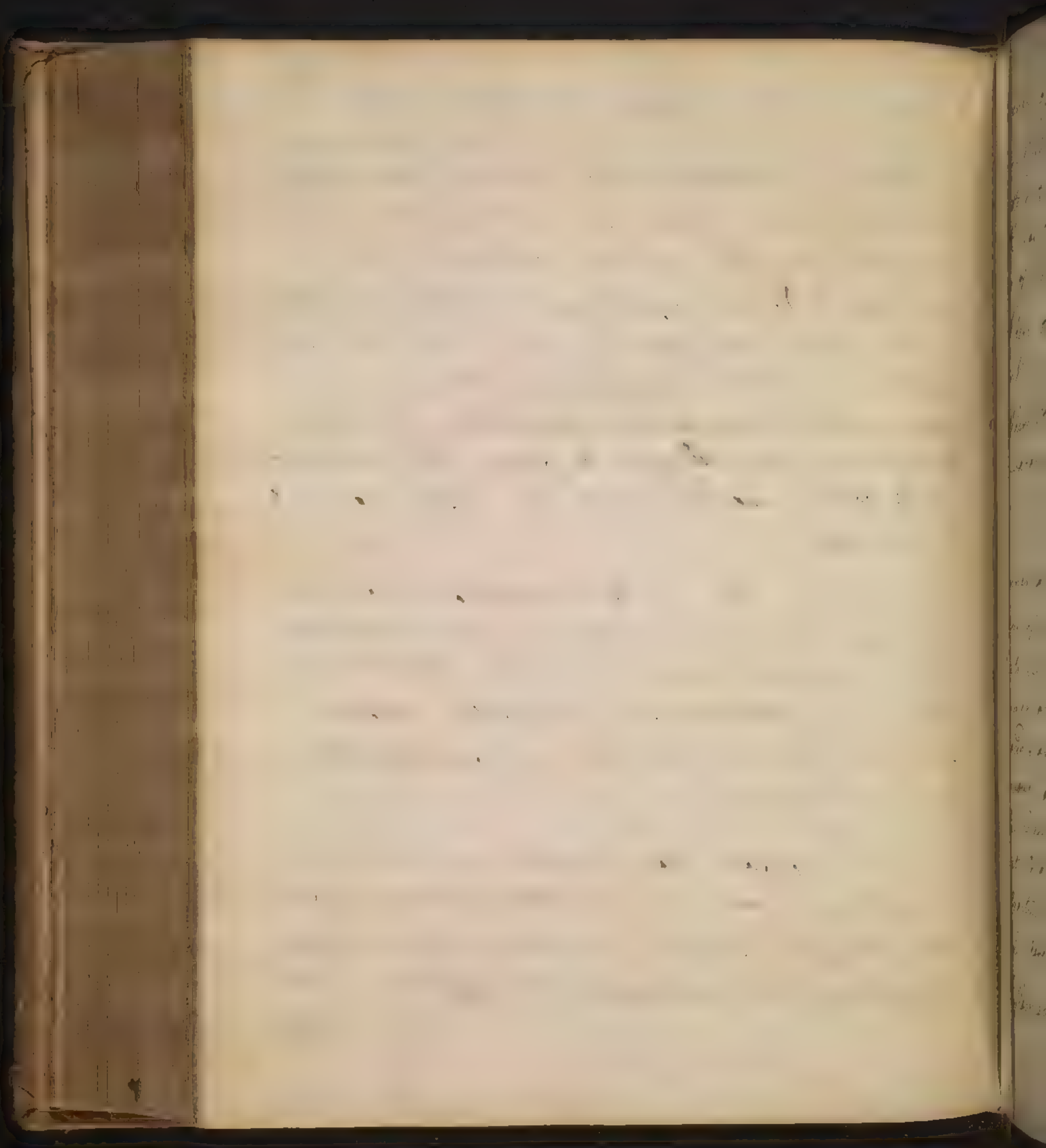
Thus therefore the common Distinction of fevers now generally fallen into by Physicians, from Observation, is very consistent with our Doctrine. But in the next Place, that we might examine into the matter more particularly, we took a view of the principal Symptoms of both Inflammatory and Nervous Fevers; and found that those of the former, together with its Causes, all concurred to make us refer it to a Phlogistic diathesis - Those of the latter, with its Causes, to Excess of Debility. The only difficulty is, that, though a distinct and separate Concourse of Symptoms, often mark out the Inflammatory and Nervous Fevers by themselves; yet they are often mixed, viz, it is common that the Inflammatory form appears in the beginning of a fever, but it ends in the Nervous - Such a form of fever, a combination of the two, Physicians have often described, and I



I have endeavoured to explain it - I think it depends on this, that when the fever comes on under circumstances of Phlogistic Diathesis, or its causes and those of Diathesis Phlogistica concur, these will operate more remarkably at first, especially while the System is in full natural Vigour, so as to give the fever an Inflammatory form in the beginning - But when the causes of fever come to be multiplied, and to acquire more power, or the System further debilitated from the Continuance of the Disease, the fever still continues, but its form is changed from the Inflammatory into the Nervous -

Thus, then, I have adapted our Doctrine also to this very common form of fever, where the two fundamental forms are mixed. and to this I have appropriated the name of Synochus - and there are three Genera, and there are only these three of continued fevers -

So far I have applied my Doctrine to the different forms, or Distinction of Continued fevers. But it applies further, to Intermittents, and gives the different forms and distinction of them - The
diffe



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difference of this ~~form~~ Type is not of much impor-
-tance. But there is another distinction which we mean
to attend to here, that is, as they are liable to interchange
with continued fevers. In this view we have two
cases of Intermitents.

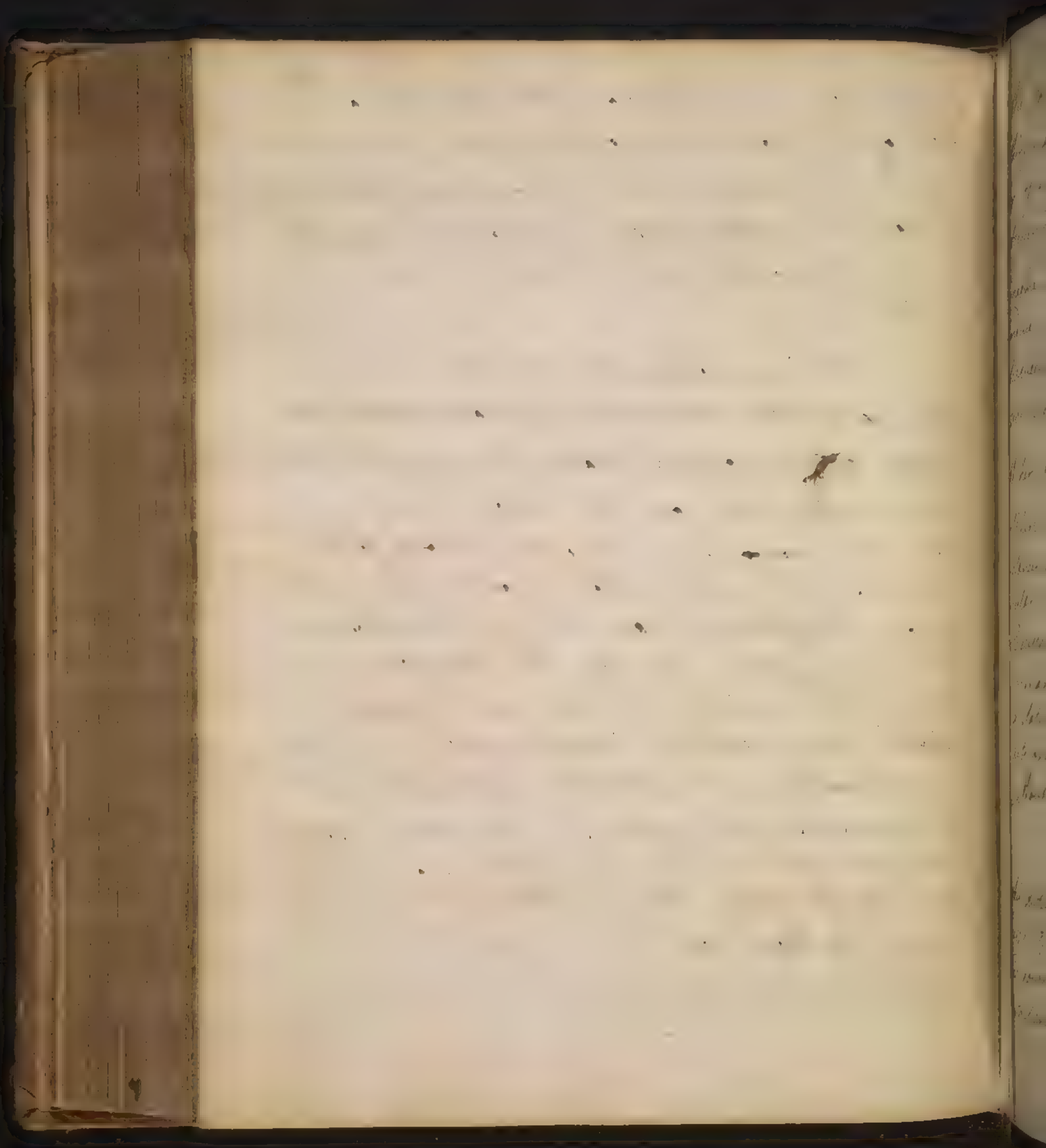
1. Where the fever begins continued, but ends Intermit-
-tent.
2. Where it begins distinctly Intermittent, and after-
-wards runs into the continued form.

The first Case I explain in the same
manner as the Synochus above mentioned, viz, that
causes of Inflammation concur with Causes of Intermit-
-tents in the beginning; - but that afterwards the
former are diminished, while the latter are in-
creased, and the fever consequently becomes either
Nervous or a distinct Intermittent. and as to the
other Case, where the change is from an Intermit-
tent to a continued, I say it is often owing to bad
Practice, viz, the use of Stimulent Mercurials:
and here therefore there is an accessory cause of
Inflammation. But the other is by far the most
free



frequent cause - and I mention that it is the natural effect of the continuance of these fevers, though they being in the continued and inflammatory form; for this cause to multiply itself, or increase in strength, as more commonly to give the form of an Intermittent.

Having proceeded thus far, there is only one other particular to be noted, viz, that though the causes of fever (only as I have hitherto considered them) act, in exciting fever, on the Nervous System - yet there are many cases where they act only as ferment on the mass of Blood, so as to induce more or less of a Putrescence (we dare not say Putridity, because it is incompatible with life) This therefore gives the distinction which Physicians have so generally followed, and at all times thought necessary, into Putrid and nonputrid - The Antients indeed speak with no precision on this subject, and the Moderns, for the most part, have not done much better, from striving too much to follow them - I think it should be confined to those cases where a putrid ferment is introduced, and acts on the fluids, so as to induce a putrescence.



Of this state of fever also I have given you distinguishing marks - But though I spoke of the introduction of a ferment, I should not confine the state of putrescency absolutely to the cases where it occurs; for I imagine that the actions of the Economy itself tend to induce Putrescency, independent of Extraneous matter introduced to act as a ferment. There may then be two Cases of Putrescency, more especially in fevers.

1. When it is owing to a putrid ferment introduced.
2. Where the Putrescency is induced from the Circumstances of heat, greater Velocity of the blood, particular state of the Tone of the Vessels, or other Causes that may favour Putrescency, being more remarkably increased in fevers, there may then be a state of Putrescency induced, though the Cause acts only on the Nervous System, and excites a fever without acting on the fluids as a ferment.

It was not necessary, however, to attend to this distinction as the origin of Putrescency in the fluids - If we attend diligently to the marks before laid down, as indicating the Presence of a state of Putrescency - But I took notice of it chiefly for the



the case of another Argument, viz, that is the effect of Putrescency to produce a poison, which is a powerful Sedative, and has a deleterious action on the Nervous System - and as the state of fever tends of itself to induce a degree of Putrescency, this is another reason why Fevers, though they begin with the Inflammatory form, often in the end run on the appearance of a nervous fever - and also for the same reason Intermittents are often in the end converted into Continueds of the same pernicious nature, viz, from Excess of Debility induced by Putrefaction.

I have therefore now carried you through the whole of the principal differences of fevers; and have shewn them to be agreeable to our System - I have explained the most natural circumstances of fever on our Doctrine; and we find that the whole tends to confirm it. I have also shewn you other nearer distinctions of fever, according to its Complications; and have made some remarks on fevers as combined with Phlegmasia, Epanthemata, and Profluvia, in order, in such Cases, to distinguish which is the Idiopathic disease. But these cannot be fully and more particularly considered till we have spoke of these

Orders



Orders.

This, then, finishes our general Doctrine - We shall
next proceed to consider them more particularly, and to speak
of their differences as a matter of fact, in which we shall
ascertain the Species - Here then we shall begin our
Methodica Nosologia













































































































































































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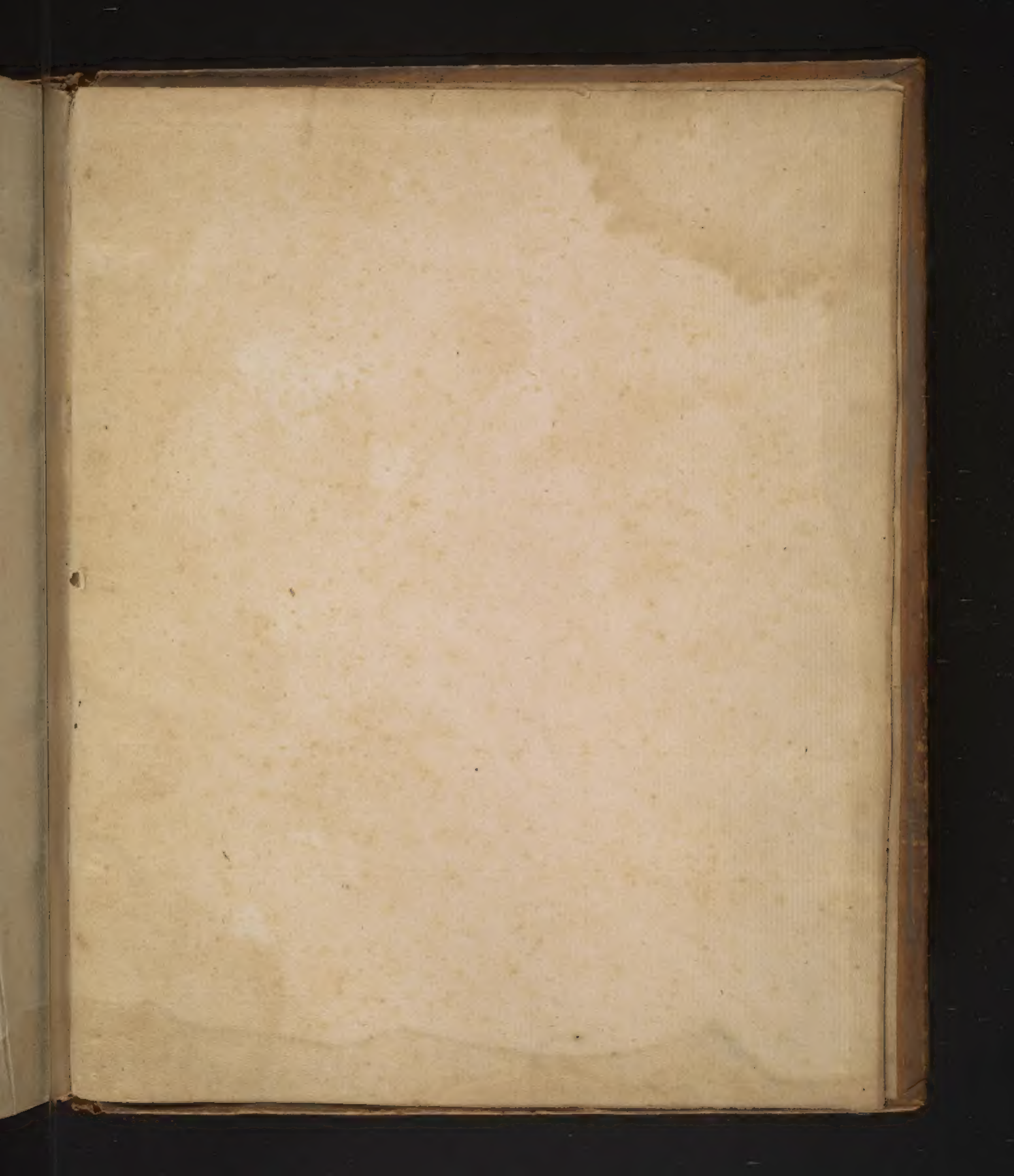


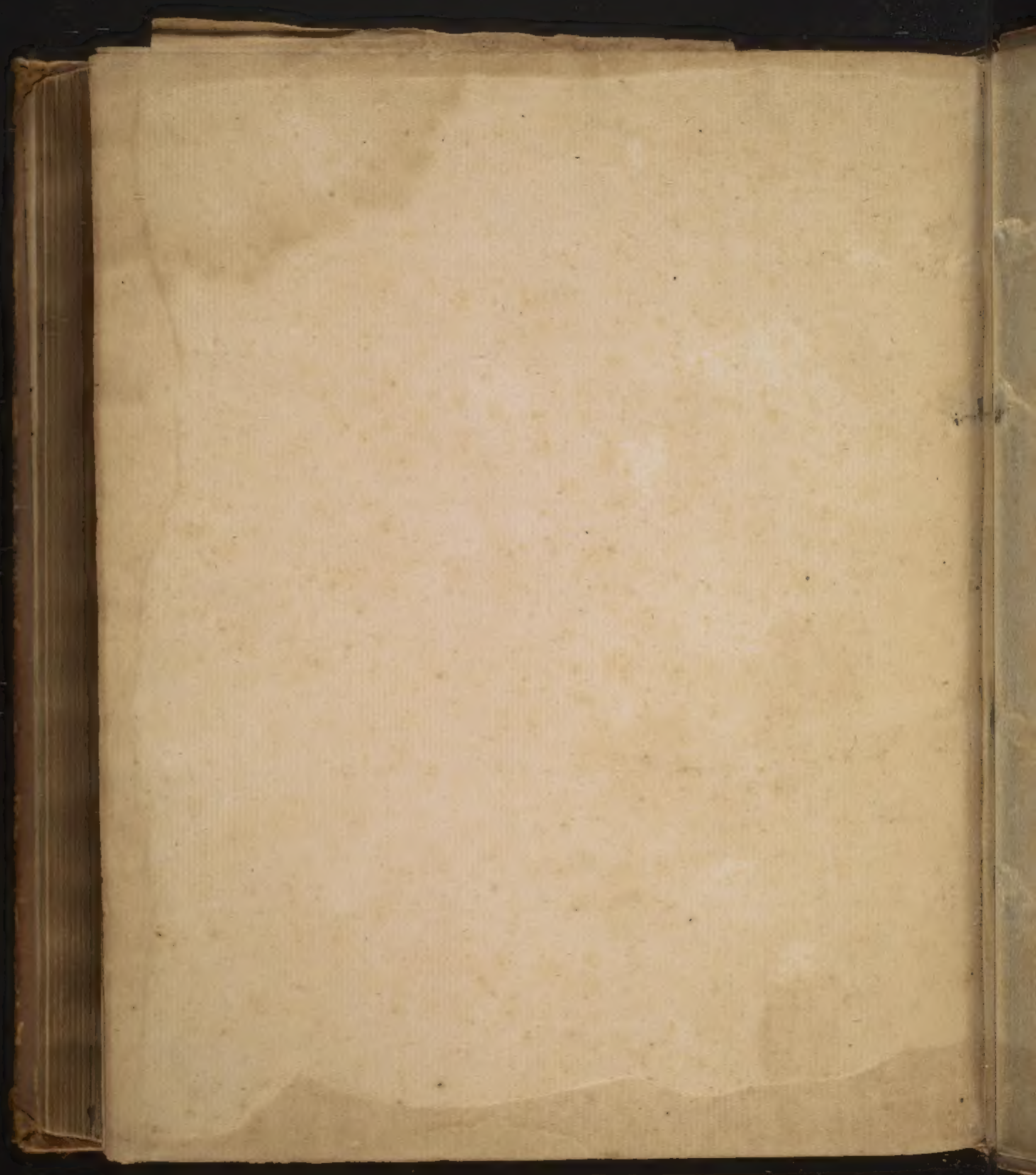












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